1885

Iowa Agricultural College Catalogue

Iowa State University

IOWA AGRICULTURAL COLLEGE.

CATALOGUE

FOR THE YEAR

1885.

SCIENCE WITH PRACTICE.

1885
BY THE COLLEGE
AMES.

CEDAR RAPIDS IOWA.
DAILY REPUBLICAN STEAM PRINTING HOUSE
1885.

CALENDAR FOR 1886

Term opens - - - -	Wednesday, February 24
Entrance Examinations - -	Wednesday, February 24 Thursday, February 25
Recitations begin - - -	Friday, February 26
Term Examinations - -	June 19 to 23
Junior Exhibition - - -	Wednesday, June 23
Summer Recess begins - -	June 24
Second Term begins - - -	Tuesday, July 20.
Recitations begin - - -	Wednesday, July 21.
Term Examinations -	November 3 to 10
Address before Trustees - -	Tuesday evening, Nov. 9.
Commencement Exercises - -	Wednesday, November 10.

Winter Vacation from November 11, 1886, to February 24, 1887.

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MEETINGS.

The annual Meeting of the Board of Trustees is held on the second Wednesday of November; the other meetings are held in the latter part of November and in May.

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GEORGE M. OSBORN, D. V. M.,
House Surgeon in Veterinary Department.

A. S. HITCHCOCK, B. S. A.,
Assistant in Chemistry

HISTORICAL.

In 1858 the Legislature of Iowa passed an act to establish "A State Agricultural College and Model Farm," to be connected with the entire agricultural interests of the State; appointed a board of commissioners to buy a farm and erect a college building, and elected a board of trustees to select a faculty and organize a college. In 1859 a farm of six hundred and forty acres, situated near Ames, was purchased for the use of the college. This college and farm was entirely an agricultural institution.

In 1862 a bill was passed by Congress entitled: "An act donating Public Lands to the several States and Territories which may provide colleges for the benefit of Agriculture and the Mechanic Arts."

Section 1, of this bill says: "Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, that there be granted to the several States for the purpose hereinafter mentioned, an amount of public land, to be apportioned to each State in quantity equal to thirty thousand acres for each Senator and Representative in Congress to which the States are respectively entitled by the apportionment under the census of 1860: Provided that no mineral lands shall be selected or purchased under the provisions of this act."

Section 4 requires: "That all moneys derived from the sale of the lands aforesaid by the States to which the lands are apportioned, and from the sale of land scrip, hereinbefore provided for, shall be invested in stocks of the United States, or some other safe stocks, yielding not less than five per centum on the par value of said stocks; and that the money so invested shall constitute a perpetual fund, the capital of which shall remain forever undiminished, (except as may be provided for in section fifth of this act,) and the interest of which shall inviolably be appropriated by each State which may take and claim the benefit of this act, to the endowment, support and maintenance of at least one college, where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to

teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the Legislature of the States may prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life."

Section 5 says: "And be it further enacted, That the grant of land and land scrip hereby authorized shall be made on the following conditions, to which as well as to the provisions hereinbefore contained, the previous assent of the several States shall be signified by Legislative acts: First. If any portion of the fund invested as provided by the foregoing section, or any portion of the interest thereon, shall, by any action or contingency, be diminished or lost, it shall be replaced by the State to which it belongs, so that the capital of the fund shall remain forever undiminished; and the annual interest shall be regularly applied without diminition to the purposes mentioned in the fourth section of this act, except that a sum not exceeding ten per centum upon the amount received by any State under the provisions of this act, may be expended for the purchase of lands for sites or experimental farms, wherever authorized by the respective Legislature of said States. Second. No portion of said fund nor the interest thereon, shall be applied directly or indirectly, under any pretense whatever, to the purchase, erection, preservation, or repair of any building or buildings."

In 1862 the General Assembly accepted the grant upon the conditions and under the restrictions contained in the act of Congress, and by so doing entered into a contract with the General Government to erect and keep in repair all buildings necessary for the use of the College. By this action of the General Assembly the College was changed from a purely agricultural institution to a College of Agriculture and Mechanic Arts.

In 1882 the General Assembly passed an act defining the course of study to be pursued, as follows: Section 1. That section 1621 of the Code is hereby repealed, and the following is enacted in lieu thereof: Section 1621. That there shall be adopted and taught at the State Agricultural College, a broad, liberal and practical course of study in which the leading branches of learning shall relate to agriculture and the mechanic arts, and which shall also embrace such other branches of learning as will most practically and liberally educate the agricultural and industrial

classes in the several pursuits and professions of life, including military tactics. Section 2. That all acts and parts of acts inconsistent with this act are hereby repealed.

The College was formally opened on the 17th of March, 1869. It will consequently, at the end of the present term, complete its seventeenth year.

The income from the endowment fund averages about $44,000 per year, about $30,000 of which is expended for salaries of professors, assistant professors, instructors and foremen. The remainder is required for the necessary running expenses of the various departments and minor expenditures of the College.

LOCATION.

The College occupies a pleasant and healthful location a mile and a half west of the town of Ames, on the Chicago & Northwestern Railway, in the central county (Story) of the State, and thirty miles north of the city of Des Moines. The railroad facilities for reaching Ames from any part of the State are very good. Regular conveyances for passengers and baggage run between the station and the College three times each day.

BUILDINGS AND GROUNDS.

The Main College building is four stories high above the basement, and is 158 feet long by 112 feet deep through the wings. In the basement are the dinning-room, kitchen, rooms for help, and armory. On the first floor are the chapel, offices of teachers and library. The second floor contains several recitation rooms and rooms for students. The third and fourth floors contain student's rooms and the zoological and geological museums. About two hundred persons can be accommodated in this building. All the rooms are heated by steam and lighted with electricity. Water is supplied in all the stories.

The Boarding Halls are brick buildings affording rooms for ninety students, with dinning-rooms, kitchens and store-rooms.

The Chemical and Physical Hall is a large, two-story brick

building, 70 by 44 feet, with a wing 61 by 31 feet. The first floor contains the chemical laboratories; the second the physical laboratory, apparatus and lecture room, while two draughting rooms occupy the attic. In the basement are the heating aparatus and a large recitation room. This building is warmed by steam and supplied with water and gas.

North Hall is a two-story brick building, 40 by 70 feet. On the first floor it affords rooms for the departments of agriculture and zoology. On the second floor are the rooms of the botanical department.

Horticultural Hall is a wooden structure containing on the first floor a large lecture room and a tool room. On the second floor is the horticultural museum. The cellar has two large rooms, one for the storage of garden products, the other for the use of the nursery propagating department. A grafting room and propagating house are attached, heated with hot water.

South Hall is a two-story brick building which has been refitted for the School of Domestic Economy, and contains the accessories of a model home.

Six dwelling-houses upon the College grounds are occupied by professors' families.

The College Creamery, a frame building, is conveniently situated near the farm house. The farm barns are adjacent—one of brick, for horses, and one large frame barn, in the basement of which is a stable for one hundred head of cattle. The feeding barn, 52 by 56 feet, and the piggery, 36 by 96 feet are models of convenience. Both occupy sites east of the other farm buildings.

The Work-shop is a two-story frame building, fitted up with machinery and tools for the prosecution of repairs and for instruction in mechanical work.

The Office is a substantial two-story brick building for the use of the Board of Trustees, the President, Secretary and Treasurer.

The Veterinary Buildings, costing ten thousand dollars, comprise,—a building for the offices and class-rooms of professors in this department, and a hospital with all the modern appliances for the treatment of diseased animals. The School of Veterinary Science is the best equipped for work of any in the Western States.

The new Hall for Mechanical and Civil Engineers is one of the most commodious and attractive on the College Domain and furn-

ishes all necessary accommodations for these rapidly growing departments.

THE COLLEGE GROUNDS.

The College Domain includes 900 acres, and of this about 120 acres are set apart for College Grounds. These occupy the high land of the southwest part of the farm and include the campus, shrubbery plantations, young forestry plantations, the flower borders and garden, with the surroundings of the professors' dwellings. Gravel drives and walks lead to all parts of the grounds and to the various buildings.

Directions to Candidates and Students.

REQUIREMENTS FOR ENTRANCE.

Students seeking admission to the Agricultural College must be at least sixteen years of age.

Candidates for membership in the Freshman class must give evidence of a thorough knowledge of English Grammer, Arithmetic, United States History, Orthography, Human Physiology and (except in the Veterinary course) Algebra through simple equations.

Entrance examinations will be held at the College on the first and second days of each term. The first class certificates of a county superintendent will be received in lieu of an examination in the studies covered thereby. Special arrangements may be made with the President of the College for examinations by the Principals of high schools.

Candidates may be conditioned for one year in physiology.

Should there be room in the dormitories after the regular classes are provided for, students having a high standing, in the other required branches but being deficient in algebra, will be admitted to the College and assigned to a class beginning algebra. It is, however, the wish of the Faculty that this number be as small as possible.

HOW TO ENTER THE AGRICULTURAL COLLEGE.

Persons desiring to enter the Agricultural College at the opening of the spring term, February, 1886, will comply with the following directions:

1. Write to the President, if possible, before the first of February, asking for a Card of Inquiry.

THE CARD OF INQUIRY.

Questions Respecting Matters Essential to Admission.

1. Are you sixteen years old?
2. Are you proficient in the studies required for admission to the Freshman class?
6. Will you, if admitted, remain one entire term, unless prevented by sickness or unforseen misfortune?

Questions not Essential to Admission

1. Do you intend to complete one of our courses of study?
2. What is your father's occupation?

2. On receiving the card of inquiry, write an answer opposite each question on the list; then enclose and mail the card to the President. If the answers you give accord with the "Requirements for Entrance," a card of admission will be sent you.

3 When you arrive, at the opening of the term, present this card of admission to the Steward; select your room, pay the rent, make your deposit, and, without loss of time, show your receipt therefor to the President at his office. If you have not a certificate of proficiency in the studies required, you will then secure a card of examination.

4. Attend punctually every examination at the time and place indicated on the card. When all the examinations are completed, and your standings therein are marked on the card, return it to the President. If you have passed the studies required with a standing of 3 or over, (4 being perfect,) you will then sign the Student's Record Book and Contract, and secure a Card of Classification.

5. Present the card of classification to each of the teachers having charge of the classes to which you are assigned, and attend thereafter every recitation of the term.

The contract signed by every student upon entering the College is for next year as follows:

> We, the Faculty of Iowa Agricultural College, hereby agree that we will guarantee to the students of 1886 all the privileges and instruction set forth in the College Catalogue, and that the laws we make shall be simply for their advancement and the good government of the institution.
>
> LEIGH HUNT, President.

> I, hereby agree, on entering the College, in 1886, that I will respect its laws, and, except in case of illness or unforseen misfortune, or the necessity of leaving to teach school, remain the entire term, (whether first or second) on which I enter.
>
> Signed

THE CLASSIFICATION OF STUDENTS.

Students having back studies at the commencement of any term shall be classified in all such studies in that term in excess of *two*, or may, at the discretion of the executive, be classified in all such back studies.

This rule does not apply to advanced students until they shall have been in the College six months.

In order to enable students to pass back studies, such examinations as may be necessary will be held during the first week of each term. And all back studies not passed during the first week will be considered as back studies for that term.

STUDENTS' EXPENSES, ETC.

No charge is made for tuition.

For board, heating, lighting, cleaning and care of the college buildings, students pay what the items actually cost the Institution. Injury to college property, of whatever sort, is charged to the author, when known; otherwise to the section, or the entire body of students.

Students boarding in any of the college buildings furnish their own bedding, and all furniture for their rooms, excepting bedsteads, washstands, tables and wardrobes. All male students are required to supply themselves with uniforms.

The current expenses of students during the year 1885 were as follows:

In the Main College building:—	
Board per week	$2 25
Lighting and heating, per week	40
Incidentals per week	.21
Room rent, per term	1 50 to 3 00
In the Boarding Halls:—	
Board per week, including fuel and lighting	2 10
Janitor's fee, per term	3 00
For day students:—	
Janitor's fee, per term	4 00

Students paying for board by the term in advance, can secure a reduction of 10 cents per week. This applies to all the boarding departments

As security for the payment of all bills against him, each student, at the opening of the term, makes deposits with the Steward as follows:

On board account in main building	$20.00
On board account in boarding halls	15.00
On room and furniture account	5.00
On general breakage and damage account	1.00

These deposits will be returned on final settlement at the close of the term

All bills for each month must, without fail, be settled at the Steward's office on the second Saturday of the month following.

The dining room will be opened on the evening preceding

the respective days on which the spring and fall terms commence. No allowance on board bills is made for absences of less than one week's duration. Students and others bringing guests to their tables are required to pay twenty-five cents for each meal.

Text-books and stationary may be purchased at the College Book-store ten per cent. advance on publisher's prices.

MANUAL LABOR.

The following rules regulating manual labor have been made by the Board of Trustees.

1. The manual labor required by law of students is divided into two kinds, viz: Uninstructive labor, which shall be paid for; and instructive labor, which shall be compensated by the instruction given and the skill acquired.

2. Uninstructive labor shall comprise all the operations in the work-shop and garden, upon the farm and elsewhere, in which the work done accrues to the benefit of the College and not to the student. Instructive labor shall embrace all those operations in the work-shops, museum, laboratories, experimental kitchen and upon the farm and garden, in which the sole purpose of the student is the acquisition of knowledge and skill.

3. Students shall engage in instructive labor in the presence and under the instruction of the professor in charge, according to the statement made in each of the courses of study.

4. The labor furnished by the school of Agriculture, of Veterinary Science and of Engineering, is given by each to its own students.

5. The "details" supplied by the needs of the other departments will be given to the most faithful and meritorious students of the Course in Sciences related to the Industries.

6. Uninstructive labor is paid for according to its value to the College.

GOVERNMENT.

The crowded buildings of the College and the nature of the exercises, complicated as they are by manual labor, make order, punctuality and systematic effort indispensable. This Institution, therefore, offers no inducement to the idle or self-indulgent. Any person, who is too independent to submit to needful

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authority, or too reckless to accept wholesome restraint, are advised to go where the courses of study are easier, and the requirements are consequently less. The education attained here is the result of energetic effort made possible by a uniform system of conduct and study.

PUBLIC WORSHIP.

The Faculty require such conduct and decorum in and about the college buildings as are fitting to the observance of the Sabbath. Officers and students gather daily in the chapel for public worship. On Sunday afternoons a discourse is given in the chapel by the President, one of the professors, or a clergyman invited for the occasion. The object of these sermons is to emphasize and enforce the principles of the Christian religion; but in a State institution like this it would be manifestly improper to teach, or to controvert, the tenets of sectarianism.

The branches of learning taught in the College are arranged under several Courses of Study, which are distinguished as General and Technical. Under the first,

The Course in Sciences Related to the Industries, aims to give a liberal culture in the sciences and other branches of learning, which underlie the great industries of the country, without especially confining it to any particular pursuit or profession. The degree of Bachelor of Science (B. Sc.) is conferred upon those who complete this course.

The Ladies Course meets a growing demand for the higher education of women, and provides an opportunity for the thorough study of literature and language along with the natural sciences and mathematics. It leads to the degree of Bachelor of Letters (B. L.)

The Technical courses aim to meet the requirements of a special pursuit or profession. Those which have been established, are the following:

The Course in Agriculture which requires four years of study and leads to the degree of Bachelor of Scientific Agriculture, (B. S. A.)

The Course in Mechanical Engineering, of four years, leads to the degree of Bachelor of Mechanical Engineering, (B. M. E.)

The Course in Civil Engineering, of four years, leads to the degree of Bachelor of Civil Engineering, (B. C. E.)

The Course in Veterinary Science, two years in length, leads to the degree of Doctor of Veterinary Medicine, (D. V. M.)

The Course in Domestic Economy, of two years, is for post graduates and leads to the degree of Master of Domestic Economy (M. D. E.)

The candidate for graduation in any course must have secured a standing of 3 (4 being perfect) in all his studies, and presented a final acceptable thesis, as required by college law.

The graduation fee in each course is two dollars.

In addition to the foregoing courses there are certain lines of technical and scientific study which include either a single prominent science or several closely related ones, which may be pursued exclusively by students properly qualified. These, however, do not lead to a degree, and the student completing the studies of any such line may receive a College Certificate showing his attainments in such studies. These lines of study are designated as follows: 1. Literature and Language. 2. Mathematics and Physics. 3. Chemistry. 4. Biology. 5. Philosophy. 6. Military Science. 7. Horticulture. 8. Domestic Economy.

Freshman Year.

FIRST TERM.	SECOND TERM
Advanced Algebra—5* fourteen weeks	Geometry—5
Geometry begun—5 three weeks	Applied Rhetoric
English Language and Composition—4	Elementary Botany—2
Book keeping—3, or History—5	Elementary Zoology—2
Drawing—2	Rhetorical Reading—2
Practical Agriculture—2	Drawing—2
Military Drill—1	Practical Horticulture—2
	Military Drill—1

* The figures indicate the number of recitations per week.

Sophomore Year.

FIRST TERM.	SECOND TERM
Botany—2	Zoology—3
General Chemistry—3	Laboratory Practice—1
Laboratory Practice—2	Botany—Vegetable Anatomy—3
Entomology—2	Laboratory Practice—1
Physics—Mechanics—4	Physics—Heat and Electricity—3
Plane Trigonometry—5, nine weeks	General Chemistry—2
Land Surveying—5, eight weeks	Laboratory Practice—2
Field Practice—2	Stock Breeding—2
Rhetorical Reading—2	Analytical Geometry—5
Military Drill—1	Military Drill—1

* In all Laboratory work three hours count as one recitation.
† Students taking Analytical Geometry omit Zoology or Botany.

Junior Year.

FIRST TERM	SECOND TERM
Botany—Vegetable Anatomy and Physiology—3	Physiology—4
Laboratory Practice—1.	Political Economy—3
Zoology—2.	Commercial Law—2
Laboratory Practice—1	Astronomy—3
Physics—Electricity, Optics and Acoustics—3	Laboratory Practice in Physics—1
English Literature—4	Organic Chemistry—3
Quantitative Chemistry—2	Laboratory Practice—4
Laboratory Practice—2	German or French—5
Calculus—5	Two Dissertations
German—5	

Senior Year.

FIRST TERM.	SECOND TERM
Geology and Mineralogy—5	Literary Criticism—3, six weeks
Psychology—5	Ethics—5, eleven weeks
Laboratory Practice in Agricultural Chemistry—2	History of Civilization—5
Anatomy of Domestic Animals—5	Veterinary Medicine and Surgery—5
German—4, or French—5	German or French—5
Two Dissertations	Preparation of Thesis

In the Junior and Senior years the student is permitted to select for each term a number of studies aggregating not less than fifteen or more than eighteen exercises per week. No study, however, can be elected unless the studies necessarily antecedent to it have been passed. Elections must be made before the expiration of the second day of the term, and once made cannot be changed.

Any candidate for the degree of B. Sc., desiring to pursue work in any branch of study to a greater extent than is outlined in the general course can do so if his written application for the same receive the endorsement of the professor in charge and the President of the College. The amount of time given to this study as decided by the professor in charge will be counted as a part of the whole amount of work required. In selecting this additional work the other studies making up the required number of exercises shall embrace the subjects most closely related to it. This special study allowed shall not exceed one-third of the term's work.

Mathematics.

ALGEBRA. In algebra there are two divisions. The first of these is composed of students who show by their entrance examination thoroughness in arithmetic and a ready familiarity with the principles of algebra through equations of the first degree; the second includes all students obtaining a high standing in arithmetic, and passing the required examination in algebra, but showing in this latter study a want of thoroughness. Particular attention is given in this study to the explanation of the cardinal principles, and the drill in the solution of problems and equations is conducted with reference to fixing these principles in the mind of the student. The first division completes the subject in fourteen weeks, the other devotes the entire term to its study.

GEOMETRY. All students securing a standing of three (four being perfect) in either of the divisions in algebra are permitted to enter the class in geometry. This class is divided into two divisions, corresponding with those in algebra. The first division gives to the study of plane, solid and spherical geometry, the last three weeks of the first, and all of the second term of the Freshman year, while the other division devotes to the same subject the eighteen weeks of the second term. In this class the student is early taught the full meaning of a geometrical demonstration. He is warned against learning the proposition by rote, and

In order that he may not fall into this error, he is, at the end of the first book, assigned original theorems, which he is required to demonstrate. He is expected not only thoroughly to understand each proposition, but to be able so to arrange and present the points of proof as to form a complete and perfect demonstration.

TRIGONOMETRY. Instruction is given in this branch during the first nine weeks of the Sophomore year. The class is thoroughly drilled in the nature and use of trigonometrical functions.

ANALYTICAL GEOMETRY. This study is pursued by the Sophomore class during the second term. The course of instruction embraces determinate and indeterminate geometry, including a full examination of the conic sections. The underlying principles are brought prominently forward and discussed. The student is required carefully to analyze each article, and solve the problems connected therewith. To secure thoroughness frequent reviews are given.

CALCULUS. Instruction in calculus is given during the spring term of the Junior year. To enter this class it is necessary that the student should have passed the lower mathematical studies of the course. In no case can the studies be pursued successfully without previous drill in analytical geometry. Buckingham's Calculus is used as a text-book. The abstruse principles of this method of mathematical investigation are explained upon the theory of *rates*, rather than upon the theory of *infinitesimals*. Instruction is given by daily recitations and lectures with a review each Friday of the week's work. Twelve weeks are devoted to differential, and the remainder of the term to integral calculus.

Physics.

The study of physics begins with the Sophomore year and extends through the Junior year. The following outlines the course of study. In the first term Sophomore year the main topics are: composition and resolution of force, the elementary machines; laws of motion; composition and resolution of motion, friction; work, kinetic and potential energy, center of gravity, specific gravity, capillarity, elasticity, hydrostatics and pneumatics.

In the second term Sophomore year: thermometry, principles of the measurement of heat, specific and latent heats, mutual relations of heat and work, transference of heat, radiant heat, sources of heat, hygrometry, magnets; properties of the magnetic

field; potential, principles of magnetic measurements, sources of electricity, galvanic batteries, resistance, and Ohm's law.

In the first term Junior year the main topics are: chemical and heating effects of current; relation between electricity and magnetism; induced currents, principles and instruments of electrical measurements, the nature and propagation of sound, the laws of the vibration of sounding bodies, reflection and refraction of light, properties of mirrors and lenses, optical instruments spectrum analysis, polarization, and the physical nature of light.

In the second term Junior year the study is pursued by practical work in the Physical Laboratory. One afternoon is given to this work per week.

This embraces the course of study in general physics. It is taught by lectures, text-books, and recitations. Experimental demonstrations are given of the important laws and principles and, so far as the knowledge of the student will permit, the practical applications of physical laws in the industries will be indicated.

To students desiring it, and who are properly qualified, an opportunity is given to take extra work in physics. The following is an outline of the work offered. In the second term Junior year, a course of lectures in analytical mechanics especially adapted to further the study of advanced physics, methods of physical investigations and the reduction of observations including the method of "least squares." Laboratory work two afternoons per week is required.

During the Senior year the study is continued under the following lines: theory of heat, Maxwell, theory of electricity Cumming, undulatory theory of optics, Airy, and dynamo-electric machinery, Thompson. The student continues laboratory work throughout the year using as a guide "Physical Measurements" by Kohlrausch.

The Physical Cabinet is well supplied with apparatus, both for experimental demonstration, and for exact measurements in laboratory work.

Chemistry.

Instruction in chemistry begins in the first term of the Sophomore year with a study of metalloids, supplemented with sufficient theoretical chemistry for their thorough comprehension. This work is followed by a study of the bases, pursued until

the end of the term. The instruction is given by text-book, lectures and laboratory practice.

Qualitative analysis is continued in the second term of the Sophomore year with theoretical chemistry and an elementary study of oxidation and reduction. The text-books are Douglas and Prescott's Qualitative Analysis and Remsen's Theoretical Chemistry.

Students in the Veterinary School complete an elementary course in quantitative analysis during the first part of the term, followed by urine analysis and toxicology. Chemical and microscopical examinations of urine are made in both its normal and abnormal conditions. The common organic and inorganic poisons are studied in connection with the examination of foods and tissues in assumed cases of poisoning. The students are drilled throughout the year in equations and chemical problems. The works of Vaughn, Rose, Taylor, and Wormley are used.

Quantitative analysis in the first term of the Junior year of the Agricultural School consists of density, gravimetric and volumetric determinations and separations using first pure chemicals and afterward impure substances. The text-book is Classen's Quantitative Analysis, with Fresenius and Sutton for reference.

Organic chemistry in the second term of the Junior year in the Agricultural School is experimental and theoretical, using Remsen's Organic Chemistry as text-book.

Agricultural Chemistry in the first term Senior year in the Agricultural School consists of an elementary study of soils, manures, plants, milk and kindred subjects. The text-book is by Frankland.

The organic chemistry in the second term Senior year is a qualitative and quantitative analysis of organic compounds, consisting of a study of known materials and followed by analysis of unknown organic mixtures. The text-book is Prescott's Proximate Organic Analysis. This is a "four hour" elective in the general course open to students who have taken all of their above prescribed and elective work in chemistry, excepting agricultural chemistry, and in the order in which it is here laid down.

The work offered in chemistry is sufficiently extended to furnish the student a good foundation for further study and research, either as an original investigator or a practical chemist. The work is recommended as much for its educational value as for its practical utility. The expenses of the student are as light as possible,

the charges being barely sufficient to cover the cost of the materials used. Students have access to standard works on chemistry and are aided in using them for consultation in the prosecution of their work.

BIOLOGY.

BOTANY.

The study of botany begins in the second term of the Freshman year. The ground covered is that embraced in Gray's First Lessons. In connection with this text-book each student makes drawings and descriptions of roots, stems and leaves collected by himself. This is followed by a thorough study of the flower. The terms used in descriptive botany are dwelled upon and all members of the class become familiar with the methods of determining the botanical names of plants. Each student is required to do some field work for every lesson, either in bringing specimens to the class-room, or submitting a written report of observations made.

In the first term of the Sophomore year the students study plants systematically and learn to recognize readily the most important natural orders. An herbarium of fifty species of flowering plants, named and neatly mounted, is required of each member of the class. In addition to this work in systematic botany, a course of recitations in advanced structural botany, using volume I of Gray's Botanical Text-book, is pursued by the class.

The study of vegetable anatomy and physiology is entered upon in the second term of the Sophomore year. The students work three hours per week in the botanical laboratory and with the compound microscope examine the minute structure of the roots, stems, leaves, flowers and seeds of various plants. The accompanying class-room exercises consist of recitations upon, and elaborations of, the work pursued in the laboratory. Each student continues his systematic field work and adds fifty species of flowering plants to his herbarium.

In the first term of the Junior year students continue their microscopic study of plants. The work for the term is divided between vegetable physiology and a study of cryptogamic botany—ferns, mosses, etc. Special attention is given to the various kinds of parasitic fungi including rusts, smuts, mildews, moulds, etc., so destructive to crops. Each student adds thirty species of flowerless plants to his herbarium of previous terms.

In the second term of the Junior year students in the Agricultural School study the plants of the farm and garden. Special attention is paid to the origin of varieties through cross-fertilization and other causes; the accumulation of new characteristics in plants; adaptation to conditions, and similar practical problems in applied botany.

The Seniors in the Veterinary School during the first term pursue a course of cryptogamic botany, including a systematic study of the flowering plants injurious to domestic animals. A large part of the work consists of a microscopic study of rusts, smuts, moulds, and ergot, from a pathological standpoint. The subject of bacteria receives its merited share of attention.

During the second term of the Senior year the agricultural students receive instruction in the diseases of cultivated plants and become familiar with the life history of the leading destructive fungi. The best remedies are pointed out and experiments with fungicides are made by the class.

The Seniors in the Engineering School study the microscopical structure of various woods in their second term.

Students in the General Course specially interested in botany may continue their studies in that branch through the Junior and Senior years. The facilities for such special work are ample. The laboratory is well equipped with apparatus for anatomical investigations, and the herbarium, including all groups of plants, furnishes means for excellent advance work in systematic botany. Candidates for the second degree have abundant facilities for the pursuit of special lines of investigation in the various branches of botanical science.

ZOOLOGY.

In the second term of the Freshman year students take up the study of general zoology by examining and making drawings of common animals in the locality. This work is supplemented in the class room by lectures and recitations on general structure, relations, habits and distribution of animals.

The first term of the Sophomore year is devoted to the subject of general and economic entomology, embracing lectures and discussions upon insects with particular attention to injurious and beneficial species. The students make dissections and drawings of representative species in the principal groups and a given number are collected and classified.

With the second term of this year the student begins the advanced study of comparative zoology by means of dissections and microscopical study in the laboratory, along with lectures and class exercises. This term is occupied with invertebrate animals.

The first term of the Junior year is devoted to a similar study of the vertebrates.

The Zoological Laboratory is supplied with twenty-four microscopes (Beck economic and Histological dissecting), a sliding microtome and other apparatus for microscopical study and gross dissections. A supply of marine animals, properly preserved for laboratory work, has been secured so that a thorough study may be made of certain groups otherwise inaccessible to inland students.

The Zoological Museum includes mounted specimens of a number of mammals, several hundred birds, representing the avian fauna of the State, a large collection of reptiles and batrachians in alcohol, a collection of Pacific Coast fishes, donated by the U. S. Fish Commission; a few native fishes, and a small but typical collection of lower invertebrates with a set of glass models representing delicate marine forms. A set of Ward casts illustrating the principal fossils is of service in this study as well as in geology.

The collection of insects embraces a large series of native species, in many instances all stages in the life history of an insect being represented, and special care has been taken to secure the species of economic interest. There are also collections of nests and eggs of birds, and of skulls, skeletons and brains of vertebrates. These are being added to as rapidly as possible. The museum rooms, as well as the laboratory, are open to students for the direct study of specimens. Visitors are admitted to the museum every afternoon from one to five o'clock.

Opportunities are allowed for pursuing advanced or special lines of study in zoology and entomology during the Junior and Senior years and also as post graduate work.

PHYSIOLOGY.

In the second term of the Junior year the study of comparative and human anatomy and physiology is taken up in a course of lectures and text-book exercises through the term. The general and special facts of biology and the anatomical structures of the various organisms are described with as much minuteness of

detail as the time will admit, followed by a resume of the subject, in which the evolution of the different systems of organs is traced from their earliest beginning to their most differentiated forms. The course is introduced by lectures on comparative embryology. During the whole term laboratory work is required of special students in zoology, which consists of vertebrate dissections, particularly on the cat. Martin's "Human Body" is used as the text book.

By combining the different biological studies with certain studies of the Veterinary School it will be seen that a student can devote two years almost exclusively to biological work. Those desiring to spend only a limited time, and not candidates for degrees, may, if properly prepared, select entirely from studies in these branches. The selections possible are as follows: First term: botany, zoology and entomology. Second term: histology, botany, physiology and zoology or embryology. Third term: botany, histology, physiology, anatomy or paleontology. Fourth term: zoology, pathology, comparative and human anatomy and botany.

Geology.

Students of the Senior class pursue this subject during the first term, using LeConte's Elements of Geology as a text book. A portion of the time is taken up with lectures; a review of the geology of Iowa; and a study of typical fossils, while the quarries in the vicinity are visited to examine the strata and secure specimens. In the Geological Museum students have access to a good collection of common rocks, minerals and fossils, as well as the series of Ward casts.

Astronomy.

During the second term of the Junior year three exercises per week are devoted to astronomy. The principal topics studied are astronomical instruments; planetary motions; eclipses; chronology; structure of solar system; constellations; nebulae; motions and distances of stars; cosmogony. Newcomb and Holden's Astronomy is used as a text book.

PHILOSOPHY.

PSYCHOLOGY.

Psychology embraces the classified facts of the human mind, it laws of thought, feeling and action. Through this science the

student gains a clear knowledge of himself and a deeper insight into human nature; thus enabling him to judge more intelligently the actions and motives of those around him. In this regard it stands high in the list of practical studies. Moreover, investigating the laws of thought, it constitutes the root of all other sciences, whether of matter or of mind. For this reason our knowledge of other studies cannot be complete without it.

Psychology occupies the senior class, in the lecture room, five hours a week, during the first term of the year. It is taught by daily lectures and the students make original investigations in the library, according to a syllabus prepared by the professor. In course of the term each member writes five essays on different psychological topics to be read at some convenient hour in the afternoon. Psychology is a necessary antecedent to such branches as ethics, logic and the history of civilization.

HISTORY OF CIVILIZATION.

The study of those forces that promote civilization occupy four hours per week, in the lecture room, during the second term of the Senior year. The object sought is to give a clear, yet concise, history of the origin and growth of government, religion, science, language, education, industry and mechanic arts; in short, to scrutinize rapidly the means by which the primitive savage was, as the centuries passed, metamorphosed into the civilized man.

The daily exercise consist of a lecture of twenty minutes on the methods of investigating each of the subjects mentioned, and the remainder of the hour is occupied in hearing written reports from committees of the class appointed to pursue, in the library, special lines of search. In this work each member of the committee selects a topic in the history of the civilizing forces, which embraces the matter most nearly related to his future vocation.

By the above method, it is believed, the habit of independent investigation will be formed. As to the actual knowledge acquired, nothing further can be attempted than to lay well the foundation for future acquirements in a branch of learning which every genuine student will subsequently pursue.

SOCIAL SCIENCE.

POLITICAL ECONOMY.—In this division of social science are taught by text books, familiar lectures and discussions, the laws of labor—its products and their costs; the principles of capital,

money, foreign trade tariff, taxation, and all the influences that quicken or retard exchange. The student thus gains a thorough acquaintance with the scientific data that underlie and regulate industry, and becomes familiar with all questions of public policy concerning which there is such a wide diversity of opinion.

COMMERCIAL LAW.—It is the aim in this study to present the general principles of law relating to ordinary business transactions. Contracts, agency partnership, sale of goods, commercial paper, and real estate, are studied. Parson's Laws of Business, and Clark's Commercial Law, are used as text-books. The changes in the common law, made by the statutes of the State, are set forth by means of lectures. Particular attention is given to the forms of notes, bills, drafts, checks, etc., and by frequent reviews and examinations, the student is made familiar with the requisites of the more common business papers.

LITERATURE AND LANGUAGE.

LITERARY CRITICISM.—SIX weeks of the second term of the Senior year are devoted to lectures on literary criticism. The utmost that can be done, in this brief time, in so broad a field, is to secure to the student a general conception of the varied and subtle elements of power in the literary art, by directing his attention to various phases of it, and having him bring his taste and discernment to bear upon the subject.

ETHICS.—Ten weeks of the last term of the Senior year are devoted to a study of the ground-work of moral science, giving a theory of ethics, now so extensively claiming the attention of the thinking world, and not neglecting as wide application of well-ascertained principles to the practical problems of real life, as the time will permit

APPLIED RHETORIC.—Three days in the week, of the second term of the Freshman year, are devoted to a series of exercises in applied rhetoric, in which the design is to familiarize the mind with those details of composition and expression, which are most in requisition in practical life, and are usually most neglected; going no further in the theory of the philosophy of this branch than these practical ends will indicate.

HISTORY.—Freshman in the general course may take history in lieu of Book-keeping. Lectures are given in ancient and modern history through the Sophomore year in the Ladies Course.

The student is encouraged to make researches of her own on assigned topics, and bring the result into class in short papers.

ENGLISH LITERATURE.—The first term of the Junior year is occupied with English literature proper. As there is but one term devoted to this subject some specially productive era is selected and the student required, under the guide of an outline furnished in the lecture-room, to sum up investigations of his own on the literary, social, and religious influences prevailing at that time, and giving character to the masterpieces which were then produced.

LATIN.—Latin extends through two years of the Ladies Course. The first term of the Freshman year is occupied in laying a thorough groundwork in the Latin forms, and syntax, and composition, beginning Cæsar. In the second term the student passes through two books of Cæsar, and two books of Virgil's Eneid. During the first term of the Sophomore year the remaining four books of the six of the Eneid are completed, and work on Livy begun. With Livy the last term of the Sophomore year will be occupied. The Roman pronunciation is adopted.

GERMAN.—German is taught in the first term of the Freshman year, the grammer being illustrated and practically applied through the natural method and by original work. In the second term, syntax, etymology and idioms are applied in letter-writing and conversation. In the first term of the Sophomore year German literature is taught by reading, conversation and one lecture per week. At the end of this term the student has gained facility in conversation in German. In the second term of the Sophomore year of the Ladies Course, students translate from the works of Longfellow, Tennyson and Aldrich, and have two lectures per week on comparative literature. In the first term of the Junior year of the Ladies Course the history of German literature and art is taught by reading, conversation and two illustrated lectures per week.

FRENCH.—French, open to students in the various courses, is taught by the same methods as outlined above for the German language.

COMPOSITION AND DISSERTATIONS.—Instruction is given in English Composition during the first term of the Freshman year. Correct spelling, use of capital letters, punctuation, etc., are taught by frequent exercises. The Juniors in the second term, and the Seniors in the first term, write dissertations for public presentation.

Military Science and Tactics.

It is not intended to complete the education of the thorough soldier, but to fit young men for filling intelligently positions in the State troops as line officers and company instructors. The constant demand for men thus trained emphasizes the value of a thoroughly organized and well sustained military course. The chief advantages derived are the acquirement of a dignified carriage of the person, a gentlemanly deportment and a self-respectful discipline, with habits of neatness, order and punctuality. Opportunities are afforded each cadet for extending the studies in military science as desired, the College being provided with the necessary arms, accoutrements and outfits for drill and instruction in the infantry, artillery and signal tactics, for which special classes will be formed. Lectures on military subjects are delivered throughout the course, and regular battalion drill and dress parade take place each Wednesday afternoon. All male students of the college, except such as may be excused by proper authority, are required to become members of the college battalion, and wear the prescribed uniform during military exercises.

Elocution.

Instruction in elocution is given throughout the entire course. The system of voice culture is based upon the discoveries of modern scientists and removes all impurities from the voice giving fullness, flexibility and power. A thorough physical training is involved in this course, resulting in improved health as well as grace and ease of manner. The laws underlying the art of expression are taught, so that the pupil becomes the master of principles and rules, not a mere imitator of a certain model. The philosophy of expression taught is that discovered by Delsarte in gesture and that adaptation of the system to voice and rendering made by Prof. Monroe.

Vocal and Instrumental Music, and Painting.

The above branches are not given by law in the College curriculum. Opportunities are offered, however, to such as desire it to take lessons upon the organ, piano, in vocal training and in painting.

THE PIANO FORTE.—In the study of this instrument particular attention is given to technique as a necessary foundation for a perfect mastering of the piano forte. The works used are technical studies of a high character and the compositions of the best writers.

THE PIPE ORGAN.—The methods of George Whiting of the New England Conservatory of Music, Boston, are followed as far as possible, and the works of Kirk, Mendelssohn, Guilmant, Whiting and others are used. No pupils are advised to take up the study of the Pipe Organ until somewhat advanced in piano forte playing. Charges per term of twenty lessons upon the piano or organ ten dollars. For use of piano two hours daily practice fifty cents per month. For use of piano one hour daily practice twenty-five cents per month. No pupils taken for less than one half term, and no deduction will be made for temporary absence from lessons.

VOCAL MUSIC.—Instruction in vocal music is given in private lessons and to a choral class. Voices are trained with the utmost care, and fitted for the concert room if desired. The choral exercises are most effective in rendering works which train and strengthen the voice, and elevate the musical taste. Charges per term of twenty half hour lessons, ten dollars. Choral class two lessons per week for four months, four dollars.

PAINTING.—A convenient studio, containing some choice studies, from the ancient and the modern masters, has been fitted up for the pupils in painting. Charges per term of twenty lessons ten dollars. Materials can be obtained at the College.

The Library.

The library numbers about eight thousand volumes. These have been selected with reference to the wants of the departments, the aim being to build up a working library, which shall furnish the students and officers of the College, who are pursuing investigations beyond the ordinary text-books, with the best authorities and works of reference. It is not the intention of the College to furnish in its library a means of amusement, and while its officers hope to see students use the books freely, they expect that such use shall be in all cases with a definite object in view. As the student's stay in College is short, and his time consequently of the greatest value, he cannot afford to waste it in the desultory reading of good books. It is therefore urged upon students that they lay out for themselves courses of reading and study in the library, under the advise of the Librarian, or some of the professors. It is urged further that students make frequent use of the books of reference recommended by the teachers of the various college studies. The library is open from 2 P. M. to 5 P. M., and from 7 P. M. to 9 P. M.

New Course for Ladies.

This course has been laid down to meet the growing demand for higher education among women.

Freshman Year.

FIRST TERM.	SECOND TERM.
Advanced Algebra—5, 11 weeks. Geometry begun—5, 3 weeks Latin or German—5. Drawing—2. Domestic Economy—1. Laboratory Practice—1 English Language and Composition—4.	Geometry—5. Latin or German—5. Applied Rhetoric—3. Elementary Botany—2. Drawing—2. Rhetorical Reading—2. Elementary Zoology—optional.

Sophomore Year.

FIRST TERM.	SECOND TERM.
Latin or German—4. Ancient History—2. Domestic Economy—1. Laboratory Practice—1. Systematic Botany—2. Rhetorical Reading—2. And choice of any two of following Sciences: General Chemistry—3, with Laboratory Practice—2; Entomology—2; Physics: Mechanics—2; Plane Trigonometry—5, 9 weeks.	Latin or German—5 Modern History—2. And choice of any two of following Sciences: Zoology—3, Laboratory Practice 1; Vegetable Anatomy—3, Lab. prac.—1; Physics: Heat and Electricity—3, Chemistry—2, Lab. prac.—2; Analytical Geometry—5

Junior Year.

FIRST TERM.	SECOND TERM.
Advanced Latin or German—3, or Freshman German or Latin—5. English Literature—4. And choice of any two of following Sciences: Vegetable Physiology—3, Lab. prac.—1; Quantitative Chemistry—2, Lab. prac.—2; Physics Electricity, Optics and Acoustics—3; Calculus—5; Zoology—2, Lab. practice—1.	French or Freshman Latin or German—5. Political Economy—3. Two Dissertations Domestic Economy—1. Laboratory Practice—1. And from the following Sciences a choice of not less than five nor more than eight exercises per week: Physiology—4; Organic Chemistry—3, Lab. practice—1; Astronomy—3; Laboratory Practice in Physics—1; Commercial Law—2.

Senior Year.

FIRST TERM.	SECOND TERM.
Psychology—5. French—3, or Sophomore Latin or German—4. Two Dissertations. Geology or any Science not taken in first term of Sophomore or Junior year.	Literary Criticism—5, 6 weeks. Ethics—3, 12 weeks. History of Civilization—5. French or Sophomore Latin or German—5. Preparation of Thesis.

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A careful inspection of the arrangement of studies will show that a lady may pursue a language study throughout the course and combine with it any two of the five named sciences. A student, for example, may take two years of Latin and two years of German, or two and a half years of either Latin or German and a year and a half of French. In addition to the other literary studies and domestic economy the student takes botany one year and has the choice of any two of the following sciences, viz: zoology, chemistry, physics, mathematics and vegetable physiology. Opportunities are given, to such as desire it, to take lessons in music and painting.

School of Agriculture.

SPECIAL FACULTY.

THE PRESIDENT

S. A. KNAPP, DEAN.
Agriculture.

J. L. BUDD,
Horticulture

M. STALKER,
Veterinary Science.

B. D. HALSTED
Botany.

A. A. BENNETT,
Chemistry

H. OSBORN,
Entomology

This School has been organized as one of the divisions of college work, to meet the wants of such pupils as desire an extended course in the sciences which underlie agriculture, with special reference to their practical application in the diversified industries of the farm. Particular attention is paid to the problem of economical production, and to the reduction of farm improvement and management to a science which shall eliminate, as far as practicable, elements of uncertainty, and foster well defined principles of success. The course has been framed to combine that knowledge and skill which will best prepare the pupil for the highest demands of agricultural industry. The distinctive work of the School is divided into the two departments—Agriculture and Horticulture.

Course of Study.

Freshman Year.

FIRST TERM.	SECOND TERM.
Practical Agriculture—2. Farm and Garden Work 12 hours each week. Advanced Algebra—5, 14 weeks. Geometry begun—5, 3 weeks. Book-keeping—3, or History—5. English Language and Composition—4 Drawing—2. Military Drill—1.	Practical Horticulture—2. Farm and Garden Work 12 hours each week. Elementary Botany 2. Elementary Zoology—2. Geometry—5. The Dairy—2. Applied Rhetoric—2. Rhetorical Reading—2. Drawing—2. Military Drill—1.

Sophomore Year.

FIRST TERM.	SECOND TERM.
Botany—2. General Chemistry—3. Laboratory Practice—2. Entomology—2. Physics: Mechanics—2. Plane Trigonometry—5, 9 weeks. Land Surveying—5, 8 weeks. Field Practice—2 Rhetorical Reading—2.	Zoology—3. Laboratory Practice—1 Botany: Vegetable Anatomy—3. Laboratory Practice—1. Physics: Heat and Electricity—3. General Chemistry 2 Laboratory Practice—2. Horticulture—2. Stock Breeding—2.

Junior Year.

FIRST TERM.	SECOND TERM.
Horticulture—2. Practice in Agriculture and Horticulture 8 hours per week. Botany: Vegetable Anatomy and Physiology—3. Laboratory Practice—1. Quantitative Chemistry—2. Laboratory Practice—2. Zoology—2. Laboratory Practice—1. } or Physics Electricity, Optics and Acoustics—3. English Literature—4, or German—5.	Agricultural Botany—2. Practice in Agriculture 8 hours per week. Horticulture—3. Organic Chemistry—3. Laboratory Practice—1. Commercial Law—2. Political Economy—3, or German—5. Two Dissertations.

Senior Year.

FIRST TERM.	SECOND TERM.
Stock Feeding—1. Experimental Agriculture—4 Laboratory Practice in Agriculture 15 hours per week. Anatomy of Domestic Animals—5. Laboratory Work in Agricultural Chemistry—2. Geology—5, or Psychology—5, or German—4. Two Dissertations.	Farm Drainage—1. Climatology—1. Agriculture—3. Laboratory Practice in Agriculture 15 hours per week. Veterinary Medicine—5. Diseases of Plants—3. } or Injurious Insects—2. } History of Civilization—5, or German—5. Preparation of Thesis.

During the first term, Freshman year, the natural history of our domestic animals is taught two days per week, with lessons upon the management of stock and its comparative value for the farm. Full illustrations of this branch can be found in the large variety of grade and thoroughbred stock on the college farm.

In the second term instruction in the dairy is given two days per week, during which the following topics are discussed in a practical way: Essential points of the dairy cow; the best breeds and crosses; food and management; milk, its constituents, and its value for food; practical dairying and the manufacture of butter and cheese by the most approved methods. To illustrate and demonstrate the various problems, there is upon the farm a dairy of seventy cows, composed of pure Shorthorns, Holsteins and Jerseys, and grades of the same breeds. The dairy barn is ample for eighty cows, and with facilities for storing food and making experiments upon a corresponding scale. The creamery is a substantial structure, with a full supply of improved apparatus.

The auxiliary studies pursued during the Freshman year are algebra, geometry, rhetoric, botany, zoology, book-keeping or history, drawing and composition.

During the Sophomore year the supporting studies, botany, chemistry, zoology, physics and mathematics are pursued. In the second term stock-breeding is taught, three lessons per week, and a course of lectures is given upon the laws of heredity and their application in the breeding of farm animals.

It is believed that few institutions possess such complete facilities for illustration in this department as can be found in the thoroughly systematic division of improved stock, horses, cattle, sheep and swine upon the college farm.

In the Junior year, agricultural botany is taught, with particular reference to our peculiar soil and climate. During the year the relating studies, physics, vegetable physiology, landscape gardening and farm engineering, are pursued; also the following general branches: English literature, political economy and commercial law.

The special studies pursued in the Senior year are experimental agriculture, agricultural chemistry, veterinary science, and lectures on food, which cover a domain of knowledge of great practical value. They enable the student to understand soils, cereals, grasses, fertilizers, improved machinery and methods of cultivation, and the anatomy, physiology and food of domestic animals.

Horticulture and Forestry.

These studies form a part of the Course in Agriculture. Singly and alone the time allotted to this technical line of study and practice could accomplish little more than to make the student familiar with some of the leading modes and methods of empirical gardening, considered mainly as a mere art. Supported, however, by the full course in natural sciences, the routine of horticultural operations rises above the level of unreasoning custom to the rank of applied science. The cultivated plant becomes a thing of life, varied in vitality, habit of growth, and fruitfulness by conditions of soil and air more or less under control.

The studies begin with the second term of the Freshman year. No text books are used in this or the Sophomore year, as in the consideration of the subjects of small-fruit growing, orcharding, lawn-planting, flower-border, and forestry, we have no text-book as yet adapted to our prairie soil and climate. Instruction is imparted by lectures, making every possible use of the many instructive object lessons of the grounds, the nurseries, the orchards and the horticultural museum.

The supporting studies in botany, chemistry, entomology, agriculture, etc., fit the class during the first and second terms of the Junior year for the intelligent consideration of theoretical horticulture as outlined in "Lindley's Theory of Horticulture," enabling the student to comprehend important principles pertaining to vital force, germination, root and stem growth, leaf formation and functions, climatic adaptation, etc.; intimately associated in our State with failure or varied degrees of success in all horticultural operations.

MEANS FOR PRACTICAL ILLUSTRATION.

1. The vegetable gardens.
2. The flower borders.
3. The ornamental gounds.
4. The experimental nurseries.
5. The experimental orchards,
6. The small-fruit plantations.
7. The forestry plantations.
8. The propagating rooms.
9. The propagating pits under glass.
10. The collection of native and cultivated woods.
11. The collection of injurious and beneficial insects.

12. The sets of abnormal and diseased growths.
13. A set of fac-simile fruit casts.
24. The horticultural museum, now accumulating.

LABOR.

To illustrate each branch, and enable the student to become familiar with methods and processes, and acquire some skill, he is expected to engage in such labor as will best promote a knowledge of the particular study in hand, from one to four hours each day according to the work assigned. The usual compensation will be allowed for the time employed.

School of Engineering.

SPECIAL FACULTY.

THE PRESIDENT.

N. C. BASSETT, Dean,
Mechanical Engineering.

C. F MOUNT,
Civil Engineering.

E. W. STANTON,
Mathematics.

A. A. BENNETT,
Chemistry.

J. C. HAINER, Physics.

FREMONT TURNER, Foreman and Instructor in the Work-shop

This school includes the two departments of Mechanical Engineering and Civil Engineering, each provided with a complete course of study. Since there is no preparatory class it is quite desirable that those intending to pursue either of these courses should come well prepared to enter the Freshman class, especially in mathematics.

Course in Mechanical Engineering.

Freshman Year.

FIRST TERM.	SECOND TERM.
Advanced Algebra—5, 14 weeks. Geometry begun 5, 3 weeks Free-hand Drawing 4 hours per week Shop Practice 10 hours per week. English Language and Composition—4 Book-keeping—3, or History - 4. Military Drill—1.	Geometry—5. Mechanical Drawing 6 hours per week. Shop Practice 10 hours per week. Applied Rhetoric - 3. Elementary Botany—2. Military Drill—1.

Sophomore Year.

FIRST TERM.	SECOND TERM.
Plane Trigonometry—5, 9 weeks. Land Surveying—5, 8 weeks. Field Practice—2. Physics: Mechanics—2 Mechanical Drawing 6 h'rs per week. General Chemistry—3 Laboratory Practice—2 Shop Practice 8 hours per week last 8 weeks of the term.	Principles of Mechanism—2 Mechanical Drawing 6 h'rs per week. Analytical Geometry—5. Descriptive Geometry—2. Physics: Heat and Electricity—3. Shop Practice 10 hours per week.

Junior Year.

FIRST TERM.	SECOND TERM.
Principles of Mechanism—5, 8 weeks. Analytical Mechanics—5, 9 weeks. Shop Practice 10 hours per week Stereotomy—2. Differential and Integral Calculus—5. Physics: Electricity, Optics, and Acoustics—3 German (optional).	Analytical Mechanics—5, 8 weeks. Resistance of Materials—5, 9 weeks. Shop Practice 10 hours per week. Political Economy—3. French—5, or German—5. Two Dissertations.

Senior Year.

FIRST TERM.	SECOND TERM.
Prime Movers—5. Shop Practice 10 hours per week. Mechanical Drawing 6 h'rs per week. French—3, or German—4. Psychology—5. Geology or Mineralogy—5. Two Dissertations.	Mechanical Engineering—5. Shop Practice 10 hours per week. Mechanical Drawing 6 h'rs per week. History of Civilization—5 French—5, or German—5. Structure of Woods—1. Preparation of Thesis.

The object of this course is to impart such scientific knowledge and skill as are essential to success in mechanical engineering. This demands a thorough mastery of the principles of mathematics and a diligent study of their application to the construction of machines. In addition to the technical instruction

given, it aims to furnish the means for obtaining a liberal and practical education.

In the Freshman year the course of study is the same as the course in the Sciences Related to the Industries. During the first term of this year thorough instruction is given in free hand drawing from models, and in the second term each student is required to make twenty mechanical drawings in lining, graining, line shading, and water colors.

In the Sophomore year plane trigonometry, land surveying, mathematics, physics, chemistry, principles of mechanism, and descriptive geometry constitute the leading studies. Mechanical drawing is continued throughout the year and consists of a progressive series in shading, shadows and projections.

The principles of mechanism and kinematics are finished the first nine weeks of the Junior year, after which analytical mechanics and the resistance of materials occupy five recitations per week throughout the remainder of the year. Lectures and experimental work are added as the class advances in the different subjects. The time set apart for drawing during this year is almost wholly occupied in making working drawings, showing elevation, plan and sectional views of parts of various machines used in the work-shops.

In the Senior year "Rankine's Steam Engine" is used as a text-book for the first term, lectures on the steam engine and other prime movers being given as the class progresses. Working drawings of an original design for an automatic cut-off steam engine are commenced at the beginning of this term. Instruction for the second term consists of lectures on mechanical engineering subjects and a series of tests of the steam engine and boiler used in the work-shops. In addition to the completion of the drawings of the steam engine begun in the first term each student is required to make a finished thesis drawing.

The professor in charge will select such drawings as he shall desire from the set made by the students in this course, these drawings to become the property of the department, or he may require any student to make one or more drawings especially for the department.

The machine and carpenter shops of the department are equipped with machinery, steam power, benches and small tools suitable for the practical work of the course.

These shops are conducted on the plan of a manufacturing establishment, first class workmen being employed in the construction of machinery and wood work to be used by the College or sold in the market. Students enter the shops as workmen and are taught to make things which are to be used, rather than those designed to suit a theoretical view of mechanical learning.

The products of the shops are selected with particular reference to their value as a means of instruction in the principles involved in the use of tests and the construction of machinery.

Students are required to work in the shops ten hours per week throughout the course and are under the instruction of skilled workmen.

Course in Civil Engineering.

Freshman Year.

FIRST TERM.	SECOND TERM.
Advanced Algebra—5, 14 weeks.	Geometry—5.
Geometry begun—5, 3 weeks.	Mechanical Drawing 6 hours per week
Free-hand Drawing 4 hours per week	Shop Practice 10 hours per week.
Shop Practice 10 hours per week.	Applied Rhetoric—3.
English Language and Composition—4.	Elementary Botany—2.
Book-keeping—3, or History—5	Military Drill—1.
Military Drill—1.	

Sophomore Year.

FIRST TERM.	SECOND TERM.
Plane Trigonometry—5, 9 weeks	Railroad Surveying—3.
Land Surveying—5, 8 weeks.	Field Practice—2.
Field Practice—2.	Analytical Geometry 5.
Physics: Mechanics—2.	Descriptive Geometry—2.
Systematic Botany—2.	Laboratory Practice—1
General Chemistry—3.	Physics Heat and Electricity—2
Laboratory Practice—2.	

Junior Year.

FIRST TERM.	SECOND TERM.
Railroad Surveying - 3, 8 weeks.	Analytical Mechanics—5, 8 weeks.
Field Practice—1.	Field Practice and Office Work—3
Analytical Mechanics—5, 9 weeks.	French—5, or German -5
Stereotomy—2.	Political Economy—3
Draughting—2.	Astronomy—3.
Differential and Integral Calculus—5.	Commercial Law—2.
Physics: Electricity. Optics and Acoustics—3.	Two Dissertations.
German (optional)	

Senior Year.

FIRST TERM.	SECOND TERM.
Roof and Bridge Structures—5.	Roof and Bridge Structures—5
Designing—3.	Designing -3.
Geology and Mineralogy—5.	Retaining Walls and Sanitary Engineering—5.
French—3, or German—4.	French—5, or German—5.
Psychology—5.	History of Civilization—5
Two Dissertations.	Structure of Woods—1.
	Preparation of Thesis.

The course in civil engineering is similar to that in mechanical engineering and also, though in a less degree, to the general course, as will be noticed upon examination of the several courses of study.

The Freshman year and first term of the Sophomore year are devoted mainly to preliminary studies including algebra, trig-

nometry, land surveying, shop practice and drawing. In the second term Sophomore year the principal studies are analytical geometry, descriptive geometry, railroad surveying, (with field practice) and physics. In connection with the class work in descriptive geometry a series of drawings comprising some twenty plates, are prepared by each student.

In the first term Junior year students have calculus, a continuation of descriptive geometry, and railroad surveying. As in the previous term, the preparation of drawings and practice in the field constitute a leading feature of the work.

In the second term Junior year students have analytical mechanics, resistance of materials, and the survey and location of a short line of railroad, including the complete mapping of the same.

During the Senior year the study of bridge drawing forms an important feature of the work. A bridge, including working drawings of all details, is designed by each student. Such other subjects as sanitary engineering, retaining walls, specifications and contracts, etc., are also studied during this year.

In all studies taught, it is the object to give practical as well as theoretical knowledge, and for this purpose a large amount of draughting and field work is required of each student. The department is well supplied with field instruments, drawings, models, draughting tables, etc., many of which are the work of its own students.

School of Veterinary Science.

SPECIAL FACULTY.

THE PRESIDENT.

M STALKER, DEAN,
Anatomy, Surgery, and Practice of Medicine

D. S. FAIRCHILD,
Histology, Pathology, Therapeutics and Comparative Anatomy.

B D HALSTED,
Botany

A. A. BENNETT,
Chemistry and Toxicology

H. OSBORN,
Zoology.

Course of Study.

Junior Year.

FIRST TERM.	SECOND TERM.
Materia Medica—2.	Veterinary Medicine and Surgery 5
Anatomy of Domestic Animals—5.	Materia Medica 2.
Zoology—2	Analytical Chemistry—2, 4 weeks
Botany—2.	Urine Analysis and Toxicology—2, 13 weeks.
Chemistry—3	Laboratory Practice—2
Laboratory Practice 2.	Comparative Anatomy—4
Clinics 5 hours per week	Ophthalmology—1.
	Animal Parasites—2.
	Histology—2.
	Clinics 5 hours per week

Senior Year.

FIRST TERM.	SECOND TERM.
Surgery—3	Practice of Veterinary Medicine 3
Cryptogamic Botany—1.	Pathology—3.
Laboratory Practice—1.	Therapeutics—2.
Therapeutics—2.	Ophthalmology—1.
Physiology—3.	Surgical Therapeutics—2.
Pathology—2.	Clinics 5 hours per week.
Clinics 5 hours per week.	

It is the purpose of this School to train students for practice in veterinary medicine. The anatomy of the horse is the special object of study, but important structural differences of other domestic animals are carefully noted. The lectures on anatomy are illustrated by means of plates, models, skeletons and prepared specimens of all the organs. A convenient and well-furnished dissecting room affords the students every facility for anatomical work.

ZOOLOGY AND COMPARATIVE ANATOMY.—In the first term of the Junior year there are two recitations per week in zoology dealing exclusively with invertebrates. During this time the student spends one afternoon each week in the laboratory in the dissection of typical forms. In the second term there are four recitations or lectures per week upon general comparative anatomy.

HISTOLOGY AND PHYSIOLOGY.—This embraces systematic histology, which is taught by lectures throughout the second term of the Junior year, and practical histology, including the microscopic study of the tissues of the animal body. The various methods of preparing tissues for microscopic examination are taught with the object of familiarizing the eye of the student with the minute anatomy of all the tissues of the animal body.

PHYSIOLOGY is taught in the first term of the Senior year by lectures, recitations and demonstrations. Physiology is carried along with microscopical anatomy. Laboratory facilities are offered students who desire to engage in original work.

PATHOLOGY.—Pathological specimens of all kinds are brought before the class for the purpose of familiarizing the students with the appearance of diseased tissues. The relations of pathological histology to the principles of medicine and surgery are carefully studied, and the advances made in the application of the microscope to exact pathology fully considered. The use of the microscope in the study of pathological specimens forms an important part of the laboratory work during the last term of the Senior year.

BOTANY.—This branch extends through one year's time. In the first term of his Junior year the student acquaints himself with general botany, and gives some attention to the identification of plants. In the spring term of his Senior year the student takes up medical botany. He is taught the natural system of classification and the characteristics of the natural orders which contain the poisonous plants. He is also made familiar with bacteria and the germ theory of disease.

CHEMISTRY.—The elementary chemistry is the same as that given in the first term of Sophomore year of the General Course. In the Senior year the work includes the detection of poison; analysis of urine from healthy and diseased animals; examinations of food, including water; qualitative and quantitative analysis of the secretions in, and excretions from, the body, together

with such work as the clinical department may require. Students also compound or make medicines required by the School. During the second term original work is required.

THERAPEUTICS.—The physiological action and therapeutical value of medicines used in veterinary practice are carefully considered throughout the Senior year.

VETERINARY MEDICINE AND SURGERY.—These subjects embrace theoretical and practical instruction in the treatment of diseases to which all domestic animals are subject, as well as the theory and practice of surgery. Members of the Senior class are made familiar with the uses of instruments and the administration of medicines.

CLINICS.—One hour each day is devoted to clinics. The Seniors are required to examine animals for certificates of soundness, diagnose diseases and prescribe for the same.

First, or Junior Year.

FIRST TERM.

8 A. M.--9.	9—10.	10--11.	11--12.	1 P. M.--2
Materia Medica. TU. TH.	Anatomy of Domestic Animals--5		Botany, TU. TH. Chemistry M W. F.	Zoology, TU. TH

SECOND TERM.

Veterinary Medicine and Surgery--5.	Comparative Anatomy, TU. W. TH. F.	Ophthalmology, F. Histology, W. F	Animal Parasites, TU. TH. Anl. Chemistry and Toxicology, M. W.	Materia Medica, M. W.

Second, or Senior Year.

FIRST TERM.

Surgery, M. W. F.		Therapeutics TU. TH Cryptogamic Botany, M.	Physiology. M. W. F. Pathology TU. TH.	

SECOND TERM.

	Practice of Veterinary Medicine, M. W. F. Pathology, TU. TH.	Therapeutics TU. TH. Ophthamology, F.	Surgical Therapeutics, M. W. Pathology, TU.	

School of Domestic Economy.

SPECIAL FACULTY.

THE PRESIDENT.

MRS. EMMA P. EWING, DEAN,
Domestic Economy
J. L. BUDD,
Horticulture and Gardening.
A A. BENNETT,
Chemistry
B. D HALSTED,
Botany,
D S. FAIRCHILD,
Hygiene and Physiology
LAURA M. SAUNDERSON,
Elocution.

This School is based upon the assumption that no industry is more important to human happiness than that which makes the home, and that a pleasant home is an essential element of broad culture, and one of the surest safeguards of morality and virtue. It was organized to meet the wants of pupils who desire a knowledge of the principles that underlie domestic economy, and the course of study is especially arranged to furnish women instruction in applied housekeeping and the arts and sciences relating thereto; to incite them to a faithful performance of the every day duties of life, and to inspire them with a belief in the nobleness and dignity of a true womanhood.

No calling requires for its perfect mastery a greater amount of practice and theory combined, than that of domestic economy, and students in addition to recitations and lectures on the various topics of the course receive practical training in all branches of housework, in the purchase and care of family supplies, and in general household management. They are not, however, required to perform a greater amount of labor than is necessary for the desired instruction.

The course of study is for graduates of colleges and universities. It extends through two years, and leads to the degree of Master of Domestic Economy.

Course of Study.

First Year.

FIRST TERM.	SECOND TERM.
Domestic Economy.	Domestic Economy.
Botany.	Physiology and Hygiene.
Physical Training.	Dress-fitting and Millinery.
Household Accounts.	Essays.

Second Year.

FIRST TERM.	SECOND TERM.
Domestic Economy.	Domestic Economy.
Chemistry.	Home Architecture.
Duties of the Nurse.	Home Sanitation.
Designing and Free-hand Drawing.	Home Æsthetics and Decorative Art
Landscape and Floral Gardening.	Essays and Graduating Thesis.

Students pursuing this course can take in lieu of botany, chemistry, physiology and hygiene an equivalent amount of work in language or literature—the work to be outlined by the President of the College. All students in the Ladies Course are required to take a certain amount of domestic economy, as therein specified.

Other Studies, Dissertations, Degrees, Etc.

OPTIONAL COURSES AND THE COLLEGIATE CERTIFICATE.

Any person of the requisite age and preparation, not a candidate for a degree, who may desire to pursue a line of study in some particular science or art, will, upon application to the President, be allowed the advantages of the college classes and all other facilities afforded by the Institution.

Students having successfully pursued a line of study in the Institution, but not such as to entitle them to graduation, will, upon application to the Faculty, be granted the College Certificate showing their standings in such studies.

HIGHER DEGREES.

These degrees are conferred upon candidates recommended by the Faculty, in conformity with the following rules:

1. The degree of Master of Science (M. Sc.) is open to Bachel-

ors of Science who are graduates of the course in Sciences Related to the Industries, and previous to 1881, of the course in Science related to Agriculture, and the Ladies Course of this College.

2. The degree of Master of Scientific Agriculture (M. S. A.) is open to Bachelors of Scientific Agriculture.

3. The degree of Mechanical Engineer (M. E.) is open to Bachelors of Mechanical Engineering, and Bachelors of Science previous to 1878, who are graduates of the Mechanical Engineering course of this College.

4. The degree of Civil Engineer (C. E.) is open to Bachelors of Civil Engineering, and Bachelors of Science previous to 1878, who are graduates of the Civil Engineering course of this College

5. The degree of Master of Philosophy (M. Ph.) is open to graduates of any of the four-year courses of study in this College.

6. The Faculty will recommend for the above degrees candidates otherwise qualified who, after taking their Bachelor's degree, shall pursue a two years course of study embracing at least two subjects selected with the approval of the Faculty from the list of post-graduate studies and shall, during that time, reside at the College for at least one year; and shall pass a thorough examination upon that course, showing in one of the subjects special attainments, and shall present a satisfactory thesis.

Every resident graduate must apply in writing for examination at least six weeks previous to the annual meeting of the Board of Trustees, stating explicitly the subject in which he desires to be examined, and, at the time of examination, (which may be four weeks previous to the meeting of the Board,) he must present to the Faculty his final thesis.

POST-GRADUATE STUDIES.

Instruction and opportunities for study are given in the following branches to post-graduate students

1. Psychology. 2. The philosophy of science. 3. Social science. 4. The English literature of the Elizabethan period. 5 Science of language. 6. Physiological botany. 7. Systematic botany. 8. Special zoology. 9. Original designs of engineering structures. 10. Veterinary pathology and materia medica. 1. Principles of breeding. 12. Applied mechanics. 12. Agricultural and organic chemistry. 14 Advanced physics. 15. Analytical geometry and calculus. 16. Horticulture and forestry. 17. Agriculture. 18. French and German.

JUNIOR YEAR.

FIRST TERM

8 A. M.--9.	9--10.	10--11.	11--12.	1 P. M.--2.
Physics, M. W F Chemistry, TU. TH.	Calculus -5. Horticulture, TU. TH.	English Literature, M TU W. TH Principles of Mechanism-5. Railroad Surveying M. W. F	Latin—5. German--5.	Botany, M. W F Zoology, TU. TH. Stereotomy, TU. TH.

SECOND TERM.

Agricultural Botany, TU. TH. French--5.	Comparative Anatomy, TU. W. TH. F. Analytical Mechanics--5 Domestic Economy, M	Political Economy, M. W. F Commercial Law, TU. TH.	German--5. Latin--5.	Astronomy, M. W F. Chemistry, TU. W. TH. Horticulture, M. W. F.

SENIOR YEAR.

FIRST TERM.

8 A M--9	9--10.	10- 11.	11—12.	1 P. M.--2
Psychology—5.	Anatomy of Domestic Animals—5. Prime Movers--5 Civil Engineering- 5.	French--M W. F Stock Feeding and Experimental Agriculture—5.	Geology--5.	Latin, M. TU. W. TH German, M. TU. W. TH

SECOND TERM.

Civil Engineering -5 Mechanical Engineering-5. Veterinary Medicine and Surgery--5	Literary Criticism and Ethics—5. Retaining Walls and Sanitary Engineering—5.	Farm Drainage and Agriculture--5. French--5	History of Civilization--5 Diseases of Plants. M. W. F. Injurious Insects, TU. TH	Latin—5. German--5.

FRESHMAN YEAR.

FIRST TERM.

11 A. M.—12.	1 P. M.--2.	2—3.	3—4	4—5.
Latin—5. German--5. History--5.	Algebra—5. Book-keeping, M. W F	Book-keeping, M. W. F. Algebra—5.	English Language and Composition, M. TU. W. TH.	Agriculture, TU. TH. Drill, W. Drawing, M. F. Domestic Economy, TU.

SECOND TERM.

Latin- 5 German--5. Dairying, TU. TH	Geometry- 5.	Applied Rhetoric, M W F. Rhetorical Reading, TU. TH	Botany, TU. TH Zoology, M. W.	Horticulture, TU. TH Drill, W Draining, M. F

SOPHOMORE YEAR.

FIRST TERM.

8 A. M.--9.	9—10.	10--11.	11- 12	1 P M.--2.
Trigonometry and Surveying--5	History, W. F. Rhetorical Reading, TU TH.	Entomology, W. F Physics, TU TH.	Chemistry, M W F. Botany, TU TH.	German or Latin, M. TU. W. TH.

SECOND TERM.

Analytical Geometry -5.	Zoology, M. W. F. Horticulture, TU. TH History, TU TH	Botany, M. W. F Chemistry, TH TU. Principles of Mechanism, TU. TH. Railroad Surveying, M W F	Physics, M. W. F. Stock Breeding, TU, TH Descriptive Geometry, TU. TH	Latin- 5. German--5.

List of Students,

POST GRADUATES.

NAME.	POST-OFFICE.	COUNTY.
Budd, Etta M., B. Sc.,	Ames,	Story.
Hays, Clara J., B. A.,	Ames,	Story.
Henry, Anna E., B. Sc.,	Ames,	Story.
Hitchcock, A S., B. S. A.,	Ames,	Story.
Knapp, H., B. S. A.,	Ames,	Story.
Knapp, Minnie, B. Sc.,	Ames,	Story.
McDonald, Mary W., B. Sc.,	Ames,	Story.
Rawson, Nellie E., B. Ph.,	Des Moines,	Polk.

—Total 8.

SENIORS.

Bowie, C. S.,	Elida,	*Illinois.*
Brown, L. G.,	Dexter,	Dallas.
Burns, P.,	New Bedford,	*Massachusetts.*
Cary, C. A.,	Millersburg,	Iowa.
Collier, D. B.,	Ft. Totten.	*Dakota.*
Goodno, G. F.,	Ames,	Story.
Gray, E.,	Talleyrand,	Keokuk.
Grow, W. A.,	Logan,	Harrison.
Hays, W. M.,	Gifford,	Hardin.
Hill, E. N.,	Des Moines,	Polk.
Hutchinson, D. L.,	Zenorsville,	Boone.
Hutton, Hannah,	Des Moines,	Polk.
Jackson, L. D.,	Adel,	Dallas.
Knorr, G. W.,	Davenport,	Scott.
Lee, C. J.,	Zenorsville,	Boone.

NOTE.—Italics denote states.

Leverett, F.,	Denmark,	Lee.
Lipes, J. C.,	Mt. Ayr,	Ringgold.
Lockwood, C. B.,	Nevada,	Story.
McConnon, Anna G.,	Monticello,	Jones.
McCoy, L. F.,	Dumont,	Butler.
Mosier, A. G.,	Des Moines,	Polk.
Nichols, Anna L.	State Center,	Marshall.
Norton, O. G.,	Durant,	Muscatine.
Pope, J. G.,	Ames,	Story.
Porter, Emma M.,	Woodbine,	Harrison.
Quint, A. U.,	Carroll,	Carroll.
Schoenleber, F. S.,	Ransom,	*Illinois.*
Schreckengast, I. B.,	Keota,	Keokuk.
Schreckengast, Lydia A.,	Keota,	Keokuk.
Underhill, C. E.,	Cherokee,	Cherokee.

—Total 30.

VETERINARY.

Bodell, C. M.,	Waterloo,	Blackhawk.
Collins, D. E.,	Emmetsburg,	Palo Alto.
Glover, G. H.,	Longmont,	*Colorado.*
Johnson, M, E.,	Villisca,	Montgomery.
Niles, W. B.,	State Center,	Marshall.
Sayers, E E.,	Marits,	*Ohio.*
Stewart, S.,	Oakland,	Pottawattamie.

—Total 7.

JUNIORS.

Andrews, F. M.,	Des Moines,	Polk.
Bardwell, F. A.,	Ft. Dodge,	Webster.
Becker, Hilda,	Le Clair,	Scott.
Bower, Mary,	Watkins,	Benton.
Bradford, J. W.,	Nashua,	Chickasaw.
Clough, S. D.,	Carlilse,	Warren.
Coe, H. C.,	Clarence,	Cedar.
Cotey, C. J.,	Madison,	Madison.
Davies, C. E.,	Council Bluffs,	Pottawattamie.
Farwell, M. Z.,	Monticello,	Jones.
Gambell, V. C.,	Winfield,	Henry.
Gamble, W. E.,	Thornburg,	Keokuk.
Greene, G. W.,	Dunlap,	Harrison.
Hainer, Norma,	Aurora,	*Nebraska.*

Haviland, F. P.,	Ft. Dodge,	Webster.
Hedges, H. S.,	Tipton,	Cedar.
Hunter, W. B,,	Independence,	Buchanan.
James, J.,	Oelwein,	Fayette.
Jones, H. R.,	Scranton,	Green.
Johnson, A. P.,	Lancaster,	Keokuk.
Langfitt, Lizzie,	Big Rock,	Scott.
Langfitt, H. J.,	Big Rock,	Scott.
Lattig, C. P.,	Anita,	Cass.
Locke, F. Y.,	Vinton,	Benton.
McCarthy, G. G.,	Boonesboro,	Boone.
McCaull, J. L.,	Garden Grove,	Decatur.
Mendenhall, M.,	Oskaloosa,	Mahaska.
Miller, H. D.,	Ames,	Story.
Myers, W. R.,	Anita,	Cass.
Reynolds, M. H.,	Shellsburg,	Benton.
Rich, O. W.,	Strawberry Point,	Clayton.
Richman, E. S.,	Muscatine,	Muscatine.
Schermerhorn, F. B.,	Marble Rock,	Floyd.
Sherman, A. W.,	Ames,	Story.
Stewart, H. S.,	Runnells,	Polk.
Williams, H. S.	State Center,	Marshall.
Yiesley, E. R.,	Woodbine,	Harrison.
Whitaker, E. A.,	Iowa City,	Johnson.

—Total 38.

VETERINARY.

Bennett, R. C.,	Des Moines,	Polk.
Carroll, P.,	Omaha,	*Nebraska.*
Chatterton, H. L.,	Onslow,	Jones.
Crowley, J.,	Ames,	Story.
Hoskins, F. W.,	Sioux Rapids,	Buena Vista.
Johnson, G. A.,	Odebolt,	Sac.
Johnston, J. J.,	Ames,	Story.
Miller, H. D.,	Ames,	Story.
Niles, E. P.,	State Center	Marshall.
Rayen, J. E.,	Carroll,	Carroll.
Streets. J. J.,	Woodstock,	*Illinois.*
Wilson, J. W.,	Traer,	Tama.

—Total 12.

SOPHOMORES.

Allen, J. B.,	Rhodes,	Marshall.
Anderson, C. S.,	Burnside,	Webster.
Bartholomew, E. W.,	Harlan,	Shelby.
Beach, S. A.,	Sharps,	Taylor.
Blake, F. J.,	Strawberry Point,	Clayton.
Boyd, F. W.,	Conway,	Blackhawk.
Canady, C M.,	Zenorsville,	Boone.
Casey, Emma I..	What Cheer,	Keokuk.
Chamberlain, F. L.,	Agency,	Wapello.
Clark, S. B.,	Ames,	Story.
Coe, W. S.,	Jefferson,	Greene.
Coe, P. W.,	Clarence,	Cedar.
Colton, G. H.,	Waverly,	Bremer.
Crawford, Esther,	Missouri Valley,	Harrison.
Curtiss, C. F.,	Nevada,	Story.
Faville, F.,	Osage,	Mitchell.
Felt, A. C.,	Blairstown,	Benton.
Ferguson, J. L..	Carson,	Pottawattamie.
Flora, U. S. G.,	Rhodes,	Marshall.
Frater, W. H.,	Clarence,	Cedar.
Goode, J. W.,	Milo,	Warren.
Harpel, L. V.,	Sheldahl,	Story.
Harper, R. H ,	Broooklyn,	Powesheik.
Hansen, N. E.,	Des Moines,	Polk.
Kirkpatrick, E. A.,	Rhodes,	Marshall.
Malley, F. W.,	Des Moines,	Polk.
Miller, E. M.,	Des Moines,	Polk.
Osborn, A. E.,	Laporte City,	Blackhawk.
Paxton, J.,	Beloit,	Lyon.
Perley, J. A.,	Monticello,	Jones.
Preston, H. L.,	Dunlap,	Harrison.
Randall, G. R.,	Warren,	*Illinois.*
Ross, C. M.,	Exira,	Audubon.
Saylor, H. J.,	Saylorville,	Polk.
Schermerhorn, G. L.,	Jefferson,	Greene.
Sherman, E. M.,	Chester Center,	Powesheik.
Sherwood, W. B.,	Strawberry Point,	Clayton.
Shutts, F.,	Nevada,	Story.
Spencer, C. L ,	Cleveland,	*Ohio.*
Stinson, F. E.,	Rhodes,	Marshall.

Stober, G. W.,	Brooklyn,	Powesheik.
Sturtz, O. G. W.,	Boone,	Boone.
Wilson, Ollie M.,	Harper,	Keokuk.
Wormley, F. J.,	Newton,	Jasper.

—Total 44.

FRESHMEN.

Abbott, J. W.,	Des Moines,	Polk.
Abraham, J. G.,	Mt. Pleasant,	Henry.
Baker, C. A.,	Centreville,	Appanoose.
Bancroft, Ella D.,	Story City,	Story.
Barnes, G. Z.,	State Center,	Marshall.
Bartholomew, C. L.	Chariton,	Lucas.
Bartholomew, Ethel,	Chariton,	Lucas.
Beard, J. A.,	Milo,	Warren.
Blackman, W. L.,	Des Moines,	Polk.
Bond, G. B.,	Lehigh,	Webster.
Bond, Cora A.,	Lehigh,	Webster.
Bowie, Anna M.,	Elida,	*Illinois.*
Bradford, S.,	Ames,	Story.
Brandvig, A.,	Story City,	Story.
Branson, L. C.,	Villisca,	Montgomery.
Branson, J. A.,	Villisca,	Montgomery.
Brooks, W. E.,	Greenfield,	Adair.
Brown, C. A.,	Altoona,	*Illinois.*
Chamberlain, F. L.,	Agency,	Wapello.
Christie, E. J.,	Vinton,	Benton.
Clarkson, J.,	Des Moines,	Polk.
Connor, W. H.,	Shenandoah,	Page.
Corbett, H. R.,	Nelson,	*Nebraska.*
Corrough, W. L.,	Malcom,	Powesheik.
Cowgill, C.,	Harcourt,	Webster.
Crawford, A. M.,	Newton,	Jasper.
Culver, J. M.,	Glidden,	Carroll.
Cunningham, J. B.,	Cascade,	Dubuque.
Dobson, F. L.,	State Center,	Marshall.
Durkee, J. E.,	Charles City,	Madison.
Ericson, E. L.,	Story City,	Story.
Fatland, O.,	Cambridge,	Story.
Fellows, Mary E.,	Montour,	Tama.

Frater, Grace I.,	Clarence,	Cedar.
Gabel, Emma H.,	Le Clair,	Scott.
Gaston, Belle L.,	Ames,	Story.
George, Jennie L.,	Iowa Falls,	Hardin.
Gilchrist, Nellie E.,	Dunlap,	Harrison.
Gladson, W. N.,	Corning,	Adams.
Greeley, F. S.,	Waterman,	*Illinois.*
Gyde, J. E.,	Tipton,	Cedar.
Harriott, E. E.,	Glidden,	Carroll.
Hanley, J. A.,	Le Clair,	Scott.
Henderson, Ella L.,	Monticello,	Jones.
Herman, J. F.,	Boone,	Boone.
Hills, W. C.,	Oto,	Woodbury.
Hitchcock, H. E.,	Anamosa,	Jones.
Hogg, C. J.,	Monticello,	Jones.
Huglin, C. F.,	Bennington,	Madison.
Hull, A. G.,	Des Moines,	Polk.
Hunt, C. W.,	Logan,	Harrison.
Jackson, M. F.,	Waukee,	Dallas.
Jenniss, U.,	Mapleton,	Monona.
Johnson, E. L.,	Dayton,	Webster.
Johnson, M. L.,	Des Moines,	Polk.
Kennedy, E. T.,	Des Moines,	Polk.
Kierulff, H. N.,	Marshalltown,	Marshall.
Lefingwell, Corabelle,	Exira,	Audubon.
Leonard, G. I.,	Decorah,	Winnisheik.
Loughran, S. L.,	Ames,	Story.
Lucas, Mabel,	Des Moines,	Polk.
Lundine, E. M.,	Dayton,	Webster.
Lynn, Mary F.,	Meriden,	Cherokee.
McGinnis, V. R.,	Hazel Green,	Delaware.
McGarth, J.,	St. Anthony,	Marshall.
Meissner, G. L.,	Webster City,	Hamilton.
Miller, R.,	Ames,	Story.
Moore, E. W.,	Des Moines,	Polk.
Morris, E. W.,	Brooks,	Adams.
Morris, T. B.,	Brooks,	Adams.
Nichols, S. G.,	Marshalltown,	Marshall.
Noble, C. H.,	Des Moines,	Polk.
Pierce, J. N.,	Kellogg,	Jasper.
Peterson, Wm.,	Harcourt,	Webster.
Phillips, J. F.,	Des Moines,	Polk.

Patten, C. H.,	Le Motte,	Jackson.
Pritchard, Stalie,	Alden,	Hardin.
Rath, S.,	Ackley,	Hardin.
Redlingshafer, J. W.,	Chariton,	Lucas.
Redlingshafer, Minnie,	Chariton,	Lucas.
Rease, S. O.,	Cascade,	Dubuque.
Richards, J. H.,	Jewell Junction,	Hamilton.
Sanborn, J. S.,	Mason City,	Cerro Gordo.
Saunders, Elizabeth,	Luther,	Boone.
Sheldon, B. J.,	Ames,	Story.
Sheafe, E. A.,	Ottumwa,	Wapello.
Skinner, E. B.,	Orchard,	Mitchell.
Slosson, F. A.,	Northwood,	Worth.
Smith, C. F.,	Charles City,	Floyd.
Smay, L.,	Nevada,	Story.
Soper, Bertha A.,	Ames,	Story.
Spencer, N.	Alden,	Hardin.
Stanley, F. L.,	Holt,	Taylor.
Stener, M. F.,	Fairfield,	Jefferson.
Strobehn, E. F.,	Davenport,	Scott.
Strause, L.,	Madrid,	Boone.
Tollman, C. E.,	Keota,	Keokuk.
Thomas, Effie,	Ames,	Story.
Thompson, W. L.,	Madrid,	Polk.
Tilden, L. C.,	Ames,	Story.
Vorse, A. J.,	Des Moines,	Polk.
Wallace, H. C.,	Winterset,	Madison.
Warwick, W. E.,	Halt,	Taylor.
Warner, C. V.,	Leon,	Decatur.
Watrous, Marion E.,	Des Moines,	Polk.
Waugh, Nannie E.,	Hazel Green,	Delaware.
Weatherby, Florence E.,	Defiance,	Shelby.
Waugh, W. P.,	Hedrick,	Keokuk.
Wentch, Julia A.,	Traer,	Tama.
West, Clara E.	Ames,	Story.
Wilson, J. F.,	Cambridge,	Story.
Wormley, J. M.,	Newton,	Jasper.
Wright, W. H.,	Orchard,	Mitchell.
Wright, Lula B.,	Ames,	Story.
Yates, S.,	Tipton,	Cedar.

—Total 115.

SPECIAL STUDENTS.

Barnes, J. H.,	Blairstown,	Benton.
Butler, Hattie M.,	Jamestown,	*New York.*
Cherrie, G. K.,	Knoxville.	Marion.
Cole, E. J.,	Woodbine,	Harrison.
Coy, I.,	Saylorville,	Polk.
Gray, Laura A.,	Odebolt,	Sac.
Gaston, Jessie E.,	Ames,	Story.
Herman Anna B.,	Boone,	Boone,
Johnson, Mary L.,	Ames,	Story.
Jay, Addie R.,	Ridgeway,	*New York.*
Kenoyer, Etta,	Ridgeway,	*New York.*
Lyon, Gertie,	Meriden.	Cherokee.
McGee, Emma R.,	Farley,	Dubuque.
McKuskey, Lizzie,	Defiance,	Shelby.
Meek, E. R.,	Davenport,	Scott.
Morgan, Mary W.,	Jamestown,	*New York.*
Nichols, S. G.,	Marshalltown,	Marshall.
Platter, Minnie,	Defiance,	Shelby.
Sampson, Alice,	Defiance,	Shelby.
Stewart, J. J.,	Ames,	Story.
Tully, W.	Keya Paha,	*Nebraska.*
Wagner, Cora D.,	Norway,	Benton.
Ward, Hattie E.,	Mechanicsville,	Cedar.
Wynn, Gertie,	Ames,	Story.
Wynn, Mamie,	Ames,	Story.

—Total 25.

SUB-FRESHMEN.

Barrett, Nellie,	Dunlap,	Harrison.
Brown, H. H.,	Winterset,	Madison.
Cox, Edith,	Lamoille,	Marshall.
Dodd, F. B.,	Waucoma,	Fayette.
Durham, F.,	Independence,	Buchanan.
Ellis, Malinda,	Steamboat Rock,	Hardin.
Ferguson, C. W.,	Sigourney,	Keokuk.
Graves, H. D.,	Ames,	Story.
Graves, F. H.,	Ames,	Story.
Godfrey, W. S.,	Des Moines,	Polk.
Gunsolus, G. N.,	Cedar Bluffs,	Cedar.
Hutchins, Sarah,	Des Moines,	Polk.

Igo, W. S.,	Palmyra,	Warren.
Ives, W. D.,	Quarrie,	Marshall.
Lightner, F. L.,	Chester Center,	Powesheik.
McElwain, J. B.,	Charter Oak,	Crawford.
Montgomery, W. U.,	Boone,	Boone.
Moulton, Laura,	Ames,	Story.
Peterson, W. C.,	Northwood,	Worth.
Stewart, C. N.,	Chariton,	Lucas.
Thompson, E. D.,	Cambridge,	Story.
Thurtle, P.,	Ashua,	Polk.
Watson, P.,	Northwood,	Worth.
Wagner, Estella,	Norway,	Benton.
Wheatley, L. A.,	Newton,	Jasper.
Wurtz, Minnie,	Steamboat Rock,	Hardin.
York, E. F.,	Des Moines,	Polk.

—Total 27.

SUMMARY.

Post Graduates	8
Senior	37
Juniors	50
Sophomores	44
Freshmen	115
Special Students	25
Sub-Freshmen	27
Total enrollment	306

List of Graduates.

1872.

NAME.	POST OFFICE.	STATE.
J. C. Arthur, B. Sc., M. Sc.	Geneva.	New York.
P S. Brown, B. Sc.,	Northville,	Dakota.
O. H. Cessna, B. Sc.,	Chicago,	Illinois.
*S. A. Churchill, B. Sc.,		
*S. H. Dickey, B. Sc.,		
Charles Deitz, B. Sc.	Omaha,	Nebraska.
L. Eoster, H. Sc.,	Monticello,	Iowa.
H. Fuller, B. Sc.,	Ottumwa,	Iowa.
F. L. Harvey, B. Sc.,	Fayetteville,	Arkansas.
*F. M. Hungerford, B. Sc.,		
Mattie E. [Locke] Macomber, B. Sc.,	Des Moines,	Iowa.
J. K. Macomber, B. Sc.,	Des Moines.	Iowa.
L. W. Noyes, B. Sc.,	Chicago,	Illinois.
H. L. Page, B. Sc.,	Boone,	Iowa.
G. W. Ramsey, B. Sc., M. D.,	Magnolia,	Illinois.
*Fannie H. [Richards] Stanley, B. Sc.		
*C. A. Smith, B. Sc.		
I. W. Smith, B. Sc., M. D.	Charles City,	Iowa.
H. C. Spencer, B. Sc.,	Grinnell,	Iowa.
E. W. Stanton, B. Sc.,	Ames,	Iowa.
J. L. Stevens, B. Sc.,	Ames,	Iowa.
C. L. Suksdorf. B. Sc.,	Mt. Adams,	Wash'ton T.
*T L. Thompson, B. Sc.		
C. H. Tillotson. B. Sc.,	Ames	Iowa.
*C. P. Wellman, B. Sc.		
J. M. Wells, B. Sc.,	Nevada,	Iowa.

—Total 26.

* Deceased.

1873.

E. L. Beard, B. Sc.,	Frankville,	Iowa.
Rowena F. [Edson] Stevens, B. Sc.	Ames,	Iowa.
*G. R. Flower, B. Sc.		
W. Green, B. Sc.,	Davenport,	Iowa.
G. W. Harvey, B. Sc., Ph, C., M. D.,		Dakota.
A. M. Hawkins, B. Sc.	Ellensburg,	Wash'ton T.
D. A. Kent, B. Sc.,	Des Moines,	Iowa.
Kate [Krater] Star, B. Sc.,	Algona,	Iowa.
J. S. Lee, B. Sc.,	Des Moines,	Iowa.
C. B. Maben, B. Sc.,	Minneapolis,	Minnesota.
M. F. Marshall, B. Sc.,	Knoxville,	Iowa.
Hattie E. [Raybourne] Morse, B. Sc.,	Littleton,	Colorado.
W. O. Robinson, B. Sc.,	Bloomington,	Nebraska.
M. Stalker, B. Sc., V. S.,	Ames,	Iowa.
Sallie [Stalker] Smith, B. Sc.	Charles City,	Iowa.

—Total 15.

1874.

Estella J. Bebout, B. Sc.,	Des Moines,	Iowa.
C. D. Boardman, B. Sc.,	Odebolt,	Iowa.
C. S. Chase, B. Sc.,	Waterloo,	Iowa.
C. E. Clingan, B. Sc , M. D.	Sioux City,	Iowa.
E. R. Clingan, B. Sc., LL. B.	Fort Benton,	Montana.
C. P. Hastings, B. Sc.,	San Francisco,	California.
J. G. W. Kiesel, B. Sc.,	Dubuque,	Iowa.
M. C. Litteer, B. Sc.,		Missouri.
G. E. Marsh, B. Scr,	Cresco,	Iowa.
O. P. McCray, B. Sc.,	Sioux City,	Iowa.
Mary A [Palmer] Snell, B. Sc.,	Boonsboro,	Iowa.
A. A. Parsons, B. Sc.,		New York.
Eva E. [Paull] Vanslyke, B. Sc.	Dubuque,	Iowa.
E. A. Pyne, B. Sc.,	Vinton,	Iowa.
Ida E. [Smith] Noyes, B. Sc.,	Chicago,	Illinois.
W. R. Smith, B. Sc.,	Chicago,	Illinois.
Kate N. Tupper, B. Sc ,	Appleton,	Wisconsin.
J. R. Whittaker,	Boone,	Iowa.
*S. Y. Yates.		

—Total 19.

1875.

E. P. Cadwell, B. Sc., LL. B.	Astoria,	Oregon.
Millah M. [Cherrie] Whiting, B Sc.,	Des Moines,	Iowa.
Alice [Cunningham] Culver, B. Sc.,	Knoxville,	Iowa.
Lizzie M. [Curtis] Foster, B. Sc.	Monticello,	Iowa.
R. P. Kelley, B. Sc., LL B.		Kansas.
C. H. Lee, B. Sc ,	Des Moines,	Iowa.
W. R. Lamoreaux, B. Sc.,	Ft. Dodge,	Iowa.
Hannah P. [Lyman] Cadwell, B. Sc.,	Astoria,	Oregon.
F. J. Macomber, B. Sc. LL. B.	Lewis,	Iowa.
Celestia A. [Neal] Gerhart, B. Sc.,	Astoria,	Oregon.
T. L. Palmer, B. Sc.,	Des Moines,	Iowa.
H. R. Patrick, B. Sc.,		Arizona.
C. E. Peterson, B. Sc.,	Panora,	Iowa.
Ida M. [Ross] Boardman, B. Sc.,	Odebolt,	Iowa.
M. E. Rudolph, B. Sc., LL. B.	Canton,	Dakota.
Ida L. [Sherman] Calkins, B. Sc.	Nashua,	Iowa.
L. C. Thornton, B. Sc.,	Kansas City,	Missouri.
J. M. Whittaker, B. Sc.	Marshalltown,	Iowa.
Nancy Wills, B. Sc.,	Boone,	Iowa.
Lizzie M. [Wilson] Edwards, B. Sc.,	Traer,	Iowa.

—Total 20.

1876.

M. I. Aitkin, B. Sc.,	Cincinnati,	Ohio.
A. P. Barker, B. Sc.,	Clinton,	Iowa.
L M. Beard, B. Sc.,	Decorah,	Iowa.
A. M. Blodgett, B. Sc.,	Kansas City,	Missouri.
Jula C. [Blodgett] Hainer, B. Sc.	Aurora,	Nebraska.
L. A. Claussen, B. Sc., M. D.,	Beatrice,	Nebraska.
J. E. Cobbey, B. Sc., LL. B.,	Beatrice,	Nebraska.
W. S. Collins, B. Sc.,	Springfield,	Iowa.
Winnifred M. [Dudley] Shaw, B. Sc.	Corning,	Iowa.
J. J. Fegtly, B. Sc.	Keosauqua,	Iowa.
G. A. Garard, B. Sc., LL. B.,	Kingsley,	Iowa.
W. F. Gilmore, B. Sc.,	Tipton,	Iowa.

J. F. Hardin, B. Sc., LL. B.,	Eldora,	Iowa.
Ellen W. Harlow, B. Sc.,	Astoria,	Oregon.
A. E. Hitchcock, B. Sc.,	Mitchell,	Dakota.
W. M. James, B. Sc.,	El Paso,	Texas.
Ella F. [Mead] Dissmore, B. Sc.,	Devil's Lake,	Dakota.
H. M. Scott, B. Sc.,	Mapleton,	Iowa.
A. B. Shaw, B. Sc.,	Corning,	Iowa.
L. E. Spencer, B. Sc., LL. B.,	Grinnell,	Iowa.
W. M. Woodward, B. Sc ,	Boonsboro,	Iowa.

—Total 21.

1877.

F. W. Booth, B. Sc.,	Philadelphia,	Pennsylvania.
Alfaretta J. Campbell, B. Sc.,	Cedar Rapids,	Iowa.
Mary C [Carpenter] Hardin, B. Sc.,	Eldora,	Iowa.
C. C. Colclo, B. Sc.,	Carroll City,	Iowa.
Kate S. [Curtis] Myrick, B. Sc.,	Monticello,	Iowa.
J. W. Doxsee, B. Sc.	Monticello,	Iowa.
Mary E. [Farwell] Carpenter, B. Sc.,	Monticello,	Iowa.
A. P. Hargrave, B. Sc.,	Columbus,	Iowa.
W. A. Hellsell, B. Sc., LL. B.,	Odebolt,	Iowa.
J. B. Hungerford, B. Sc.,	Montezuma,	Iowa.
W. N. Hunt, B. Sc.,	Cheyenne,	Wy. Ter.
R. F. Jordan, B. Sc., LL. B.,	Boone,	Iowa.
Cora B. [Keith] Pierce, B. Sc.,	Vinton,	Iowa.
E. L. King, B. Sc.,	Osceola,	Nebraska.
C. I. Miller, B. Sc.,	Exira,	Iowa.
Alice [Neal] Gregg, B. Sc.,	Traer,	Iowa.
J. C. Milnes, B. Sc. V. S.,	Cedar Rapids,	Iowa.
Cora M. [Patty] Payne, B. Sc.,	Linden,	Iowa.
L. B. Robinson, B. Sc.,	Oakland,	Iowa.
T. L. Smith, B. Sc.,	Wassau,	Wisconsin.
F. L. Stratton, B. Sc.,	Gifford,	Iowa.
H. M. White, B. Sc., LL. B.,	Washington,	California.

—Total 22.

1878.

Florence [Brown] Martin, B. Sc.,	Astoria,	Oregon.
R. Burke, B. Sc.,	What Cheer,	Iowa.
A. E. Griffith, B. Sc., M. Ph.,	Fontanelle,	Iowa.

H. L. Glenn, B. Sc.,	Livingston,	Montana.
J. C. Hainer, B. Sc.,	Ames,	Iowa.
M. M. Hitchcock, B. C. E.,	Mitchell,	Dakota.
C. B. Martin, B. C. E.,	Astoria,	Oregon.
J. C. Meredith, B. M. E.,	Kansas City,	Missouri.
Emma [McHenry] Glenn, B. Sc.,	Livingston,	Montana.
D. McKinnon, B. Sc.,	Aurelia,	Iowa.
J. N. Muncey, B. Sc.,	Jessup,	Iowa.
C. F. Mount, B. C. E., C. E.,	Ames,	Iowa.
Ellen [Rice] Robbins, B. Sc.,	Manchester,	N. Hampshire.
W. K. Robbins, B. Sc., M. Sc.,	Manchester,	N. Hampshire.
Lucy [Sheperd] Beckwith, B. Sc.,	Lompoc,	California.
Ida Twitchell, B. Sc.,	Santa Marie,	California.
E. G. Tyler, B. C. E.,	Logan,	Iowa.
T. F. Lee, B. S.,		
G. W. Wilson, B. C. E.,	Cambridge,	Iowa.
J. W. Whitney, B. Sc..	Prairieburg,	Iowa.
Belle Woods, B. Sc.,	Golden,	Colorado.

—Total 21.

1879.

Matilda [Cleaver] Faville, B. Sc.,	Fort Collins,	Colorado.
*S. Carrie [Carter] Hanson, B. Sc.		
Lillie M. Croy, B. Sc.	Ontario,	Iowa.
G. C. Faville, B. Sc., D. V. M.,	Fort Collins,	Colorado.
F. N. Field, B. C. E.,	Burlington,	Iowa.
F. H. Friend, B. C. E.,	Albion,	Nebraska.
A. L. Hanson, B. C. E.,	Hillsboro,	Dakota.
T. V. Hoggatt, B. Sc.,	Ree Hights,	Dakota.
J. E. Hyde, B. Sc.,	Hillsboro	Dakota.
L. L. Manwarring, B. Sc , LL. B.,	Stillwater,	Minnesota.
W. G. McConnon, B. M. E.,	New York,	New York.
Jennie [McElyea] Byers, B. Sc.,	Sioux Rapids,	Iowa.
*J. C. Noble, B. Sc		
H. Osborn, B. Sc., M. Sc.,	Ames,	Iowa.
J. D. Shearer, B. Sc.,	Minneapolis,	Minnesota.
F. Turner, B. M. E.,	Ames.	Iowa.

W. M Scott, B. Sc ,	Larimore,	Dakota.
J. M. Waugh, B. Sc.,	Bellville,	Illinois.
*Genevieve [Welch] Barstow, B. Sc.,		
W. Whited, B. M. E., M. E.,	Montreal,	Canada.
Alice [Whited] Burling, B. Sc.,	Eldora,	Iowa.

—Total 21.

1880.

M. J. Bailey, B. Sc.,	Rushville,	Nebraska.
D. D Briggs, B. S ,		Dakota.
*F. Boddy, B. Sc.		
O. S. Brown, B. Sc ,	Edenville,	Iowa.
M. H Hakes, B. Sc.,	Martelle,	Iowa.
J. Hassett, B. Sc.,	Leadville,	Colorado.
E. D. Harvey, B. S.,	Humboldt,	Iowa.
D. S. Hardin, B. Sc.,	Beatrice,	Nebraska.
Carrie C. [Lane] Chapman, B. Sc.,	Mason City,	Iowa.
C. H. McGrew, B. Sc., M. Ph.,	Sigourney,	Iowa.
R. M. Nicholson, B. Sc., D. V. M.,	Oskaloosa,	Iowa.
G. E. Reed, B Sc.,	Vinton,	Iowa.
J. L. Simcoke, B. S.,	Redfield,	Iowa.
C. D. Taylor, B. Sc.,	West Liberty,	Iowa.
W. A. Thomas, B. V. M.,	Lincoln,	Nebraska.
J. Vincent, Jr., B. V. M.,	Shenandoah,	Iowa.
W. B. Welch, B. Sc.,	Salina,	Kansas.

—Total 17.

1881.

Wm. C. Armstrong, B. C. E.,	Chanute,	Kansas.
Nellie M. Bell, B. Sc.,	Clarance,	Iowa.
A. M. Beresford, B. Sc.,	Vinton,	Iowa.
Thomas Burke, B. Sc.,	Des Moines,	Iowa.
Marilla J. Crossman, B. Sc.,	Falls Church,	Virginia.
Chas. M. Coe, B. Sc.,	Chicago,	Illinois.
F. B. Colby, B. C. E.,	Creston,	Iowa.
Jas. S. Dewell, B. Sc.,	Missouri Valley,	Iowa.
C. A. Dodge, B. C. E.,	Orange City,	Iowa.
E. C. Fortner, B. Sc.,	Pierre,	Dakota.
F. E. Furry, B. Sc.,	Alden,	Iowa.
M J. Furry, B. Sc ,	Alden,	Iowa.

Julia A. Hanford. B Sc.,	La Porte City,	Iowa.
R. J. Hopkins, B. Sc.,	Madrid,	Iowa.
J. R. McGavren, B. Sc.,	Missouri Valley,	Iowa.
W. H. McHenry, B. Sc.,	Des Moines,	Iowa.
W. O. McElroy, B. C. E.,	Newton,	Iowa.
Fannie J. Perrett, B Sc.,	Ottumwa,	Iowa.
Alice [Sayles] Osborn, B. Sc.,	Ames,	Iowa.
T. W. Shearer, B. Sc.,	Des Moines,	Iowa.

—Total 20.

1882.

W. D. Atkinson, B. Sc.,	Parsons,	Kansas.
*J. A. Blaine, B. Sc.,		
Etta M. Budd, B. Sc.,	Ames,	Iowa.
G. W. Catt, B. C. E.,	Des Moines,	Iowa.
Mary H. [Coe] Lorbeer, B. Sc.,	Pomona,	California.
W. V. A. Dodds; B. Sc,	Devil's Lake,	Dakota.
W. M. Dudley, B. Sc.,	Mapleton,	Iowa.
H. J. Gabel, B. Sc.,	Arcadia,	Iowa.
C. I. Lorbeer, B. Sc ,	Pomona,	California.
J. B. Marsh, B. M. E ,	Des Moines,	Iowa.
E. A. McDonald, B Sc.,	Oxford,	Nebraska.
J. R. McKim, B Sc.,	Pickrell,	Nebraska.
Nellie B. [Merrill] Wheeler, B. Sc.,	Algona,	Iowa.
Della Neal, B. Sc.,	Lawrence,	Kansas.
J. H. Patton, B. Sc.,	Big Rock,	Iowa.
Hattie A. Perrett, B. Sc.,	Mason City,	Iowa.
Lizzie Perritt, B. Sc.,	Rock Falls,	Iowa.
O. C. Petterson, B. Sc.,	Des Moines,	Iowa.
Kitty, E. Reeves, B. Sc.,	Waverly,	Iowa,
C. F. Saylor, B. Sc.,	Des Moines,	Iowa.
Sarah E. Smith, B. Sc.,	Cresbard,	Dakota.
D. T. Stockman, B. Sc.,	Richland,	Iowa.
W. S. Summers, B. Sc ,	Beatrice,	Nebraska.
W. W. Wheeler, B. Sc.,	Algona,	Iowa.
W. U: White, B. Sc.,	Pressington,	Dakota.

—Total 25.

1883.

A. M. Allen, B. Sc.,	Minneapolis,	Minnesota.
A. G. Andrews, B. C. E.,	Minneapolis,	Minnesota.

G. M. Burnham, B. Sc.,	Alden,	Iowa.
Bertie N. Carson, B. Sc ,	Minneapolis,	Minnesota.
George, Caven, B C. E ,	Minneapolis,	Minnesota.
Jennie L Christman, B. Sc ,	Ames,	Iowa.
Jennie Colclo, B. Sc.,	Carroll,	Iowa.
George W. Curtis, B. S. A.,	College Station,	Texas.
C. M. Doxsee, B. Sc.,	Algona,	Iowa.
*Lottie Estes, B. Sc.		
C. H. Flynn, D. V. M.,	Decorah,	Iowa.
Jessie E. Frater, B. Sc.,	Los Angeles,	California.
R M Hunter, B. Sc ,	Sac City,	Iowa.
C. H Keigly, B. S. A.,	Des Moines,	Iowa.
Minnie Knapp, B Sc ,	Ames,	Iowa.
Herman Knapp, B S A ,	Ames,	Iowa.
Mary W. McDonald, B. Sc.,	Ames,	Iowa.
Kate McNeal, B. Sc.,	Garden Grove,	Iowa.
A. M. Miller, B Sc.,	East Des Moines,	Iowa.
E. Mead B. Sc C. E.,	Ft Collins,	Colorado.
Emily A. Reeve, B. Sc.,	Franklin,	Iowa.
M. J. Briggs, B. C. E.,	Horton,	Iowa.
S. C Scott, B Sc.,	Lyons,	Iowa.
*Effie G. Slater, B. Sc.		
F. J. Smith, B. Sc.,	Davenport,	Iowa
M. E. Wells, B. Sc.,	Boone,	Iowa.
W. D. Wells, B. Sc ,	Le Claire,	Iowa.
Agatha M. West, B. Sc.,	Minneapolis,	Minnesota.
Mabel A. [Young] Alexander, B. Sc ,	Hamburg,	Iowa.

—Total 29.

1884.

J. F. Armstrong, B. Sc.,	Marshalltown,	Iowa.
U. E. Bell, B. Sc.,	West Union,	Iowa.
T. F. Benington, B. Sc.,	Iowa City,	Iowa.
G. R. Chatburn, B. C. E.,		Nebraska.
C. J. Clark, B. Sc.,	Denver,	Colorado.
J. E. Daughterty, B. C. E.,		Kansas.
W. P. Dickey, B. Sc.,	Palmer,	Iowa.
L. M. Garrett, B. Sc.,	Des Moines,	Iowa.
J. W. Gill, B. C. E.,	Lawn Ridge,	Missouri.
B. T. Hainer, B. Sc.,	Sutton,	Nebraska.

H. H. Hainer, B. Sc.,	Aurora,	Nebraska.
A. E. Henry, B. Sc.,	Ames,	Iowa.
G. B. Hibbs, B. Sc.,	Angus,	Iowa.
A. S. Hitchcock B. S. A.,	Ames,	Iowa.
F. A. Huntley, B. S. A.,	Webster City,	Iowa.
F. L. Lambert, B. S. A.,	Charles City,	Iowa.
W. E. D. Morrison, D. V. M.,	Sioux City,	Iowa.
E. J. Nichols, B. C. E.,	Clear Lake	Iowa.
G. M. Osborn, D. V. M.,	Ames,	Iowa.
F. L. Pitman, B. C. E.,	Clyde,	Kansas
J. F. Porter, B. C. E.,	Des Moines,	Iowa.
Addie [Rice] Hainer, B. Sc.,	Ames,	Iowa.
C. H. Sloan, B. Sc.,	Fairmount,	Nebraska.
G. W. Thompson, B. C. E.,	Casey,	Iowa.
C. Vincent, B. Sc.,	Tabor,	Iowa.
M. Vincent, B S. A.,	Le Mars,	Iowa.
Olive [Wetherby] Marsh, B Sc.,	Des Moines,	Iowa.
W J. Wicks, B. Sc.,	Harlan,	Iowa.
W. H. Wier, B. Sc.,	Story City,	Iowa
Alfred Williams, B. C. E ,	Georgetown,	Iowa.
Fannie R Wilson, B. Sc ,	Onawa,	Iowa.
G. W. Wormley, B. C. E.,	Newton,	Iowa.

—Total 32.

Total number of graduates, 288.

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